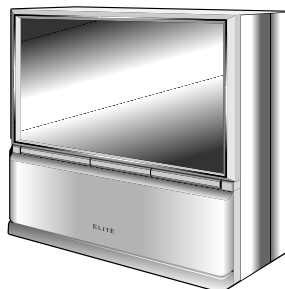


Service Manual



PRO-730HDI

ORDER NO.
ARP3183

HDTV PROJECTION MONITOR

PRO-730HDI PRO-530HDI

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PRO-730HDI	KUXC/CA	AC120V	
PRO-530HDI	KUXC/CA	AC120V	

This service manual should be used together with the following manual(s).

Model No.	Order No.	Remarks
PRO-730HD, PRO530HD	ARP3138	SAFETY INFORMATION, SPECIFICATIONS, EXPLODED VIEWS AND PARTS LIST, BLOCK DIAGRAM AND SCHEMATIC DIAGRAM, PCB CONNECTION DIAGRAM, PCB PARTS LIST
	ARP3139	ADJUSTMENT, DIAGNOSIS, IC, EXPLANATION, PANEL FACILITIES etc.

- Parts of the exploded views are all mentioned in this manual.
- The electrical parts are mentioned by contrast table in this manual.
(Refer to "3. Contrast of miscellaneous parts.")



For details, refer to "Important symbols for good services".

SAFETY INFORMATION



This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

1. SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

The following precautions should be observed :

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn.
People not so equipped should be kept away while picture tubes are handled.
Keep picture tube away from the while handling.
2. When service is required, even though the HDTV PROJECTION MONITOR an isolation transformer should be inserted between power line and the set in safety before any service is performed.
3. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
4. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
5. Always use the manufacture's replacement components.
Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's.
Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.

6. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing.

Therefore, the following checks should be performed for the continued protection of the customer and service technician.

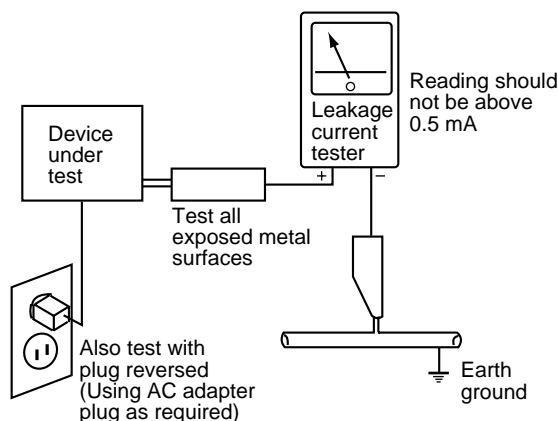
Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis should have a minimum resistor reading of 0.3M Ω and a maximum resistor reading of 5M Ω . Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a 120V AC 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

High Voltage

This set is provided with a X-ray protection for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this X-ray protection may correctly be operated.

Serviceman Warning

In the status of the black picture (video muting is being applied) when no signal is input, high voltage of this set during operation is less than 30.5kV. In case any component having some relation to the high voltage is replaced, confirm that the high voltage is lower than 30.5kV in the status of the black picture when no signal is input.

To measure H. V. use a high impedance H. V. meter. Connect (-) to earth and (+) to the FBT anode cable connector. (Refer to section "7.1.2 DISASSEMBLY".)

X-radiation

TUBE : The primary source of X-radiation in this set is the picture tube.

For continued X-radiation protection, the replacement tube must be the same type as the original, PIONEER approved type. The picture tube (CRT Service Assy R, G, B) used in this set holds complete guarantee against X-ray radiation when the X-ray is sealed (next page). Accordingly, when the current is flowing to the picture tube (CRT Service Assy R, G, B), be sure to perform it by putting the tube into X-ray sealed applied state. Avoid absolutely to flow the current to the picture tube (CRT Service Assy R, G, B) itself. Moreover, when the voltage of the high voltage circuit becomes abnormally a little higher, the picture tube radiates X-rays. Accordingly, when servicing the high voltage circuit be sure to replace as an assy with the POWER SUPPLY Assy in the manner in which has been adjusted to perform normal operation.

1.2 PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual. Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

3. CHARGED SECTION, HIGH VOLTAGE GENERATING POINT AND X-RAY PROTECTION

■ Charged section

The circuit in which the commercial AC power is used as it is without passing through the power supply transformer. If the charged section is touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. In this case, be sure to connect the set via an insulated transformer and supply the current.

■ Charged section (Power supply primary side)

1. AC Power Cord
2. The primary side of the POWER SUPPLY Assy
3. POWER SW Assy

■ : Part is charged section.
 ■ : Part is the high voltage generating points other than the charged section.

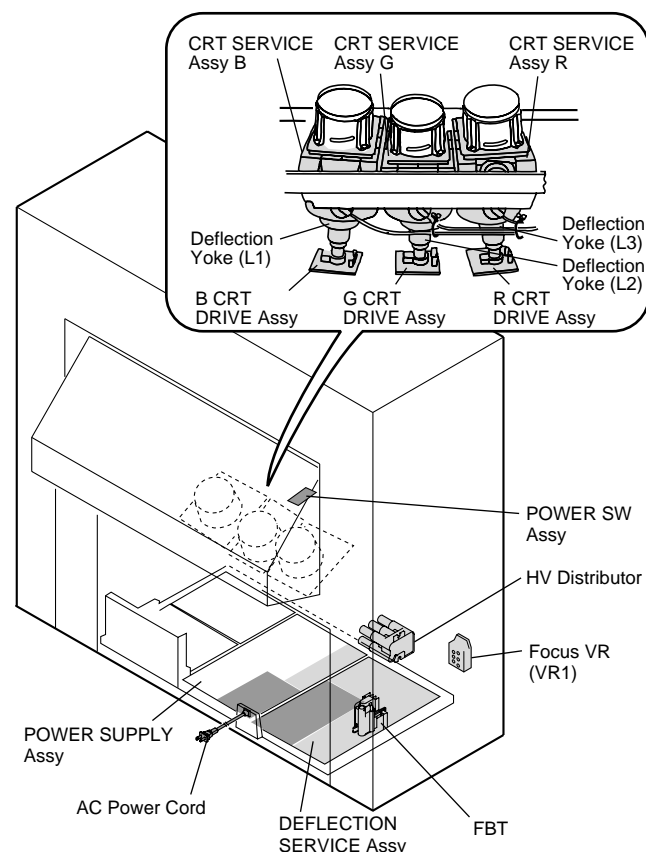


Fig.1 Charged Section and High Voltage Generation Point

■ High Voltage generating point

The place where voltage of over 100V is generated.

1. Charged section
2. DEFLECTION Service Assy
(including FBT).....(30.5kV, 1.2kV, 210V, 120V)
3. POWER SUPPLY Assy.....(120V)
4. R CRT DRIVE Assy.....(10.5kV, 210V)
5. G CRT DRIVE Assy.....(10.5kV, 210V)
6. B CRT DRIVE Assy.....(10.5kV, 210V)
7. CRT Service Assy R.....(30.5kV)
8. CRT Service Assy G.....(30.5kV)
9. CRT Service Assy B.....(30.5kV)
10. Focus VR (VR1).....(10.5kV)
11. Deflection Yokes (L1, L2 and L3)
.....Approx. (1100V at peak)
12. HV Distributor(Anode)(30.5kV)

■ X-ray protection

- Regarding the parts which are relative to radiation of X-rays (There is the danger to radiate X-ray from the individual CRT Service Assy R, G, B), there are notifications of caution in the individual schematic diagrams. Be sure to read them for safety's sake.
- The component parts for X-ray protection are as follows:
 When the current flows to the CRT Service Assy R, G, B, be sure to perform it with these parts being attached. Protection from the X-ray radiation is maintained in the state in which these parts have been installed to the CRT Service Assy R, G, B. Accordingly, never supply current only to the CRT Service Assy R, G, B.
 Moreover, the anode voltage of the CRT Service Assy R, G, B should always be kept not higher than the predetermined value (in the minimum brightness and picture state when non signal input is less than 30.5kV). Be sure to drive the CRT Service Assy R, G, B by using a completely functional Deflection Service Assy (including FBT) which have been adjusted completely in the combined state. (When the voltage abnormally becomes high, the X-ray protection circuit will operate.)

1. CRT Service Assy R, G, B (Do not dismantle CRT assemblies under any circumstances).
2. Each Lens Assy

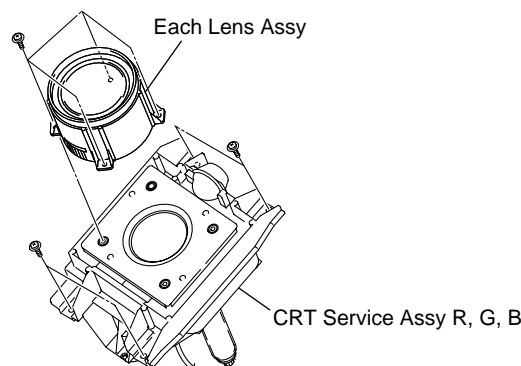


Fig.2 Component parts for X-ray protection

[Important symbols for good services]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts



Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

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1. SPECIFICATIONS

Display and amplifier section

Reception system American TV standard NTSC system
Screen size64" (PRO-730HDI)
53" (PRO-530HDI)

CRT 7" High focus CRT x 3

Brightness (White peak) 360 Foot-Lambert (PRO-730HDI)
450 Foot-Lambert (PRO-530HDI)
[White window signal input contrast Max.]
without protective screen

Horizontal resolution More than 1400 lines (PRO730HDI)
More than 1150 lines (PRO-530HDI)
[Input digital test pattern (1400 lines resolution)]

Input terminals4 video inputs
4 S-VIDEO input jacks (Y/C separate INPUT)
2 COMPONENT VIDEO INPUT jacks (Y, P_B, P_R)
6 audio inputs
CENTER INPUT jack
Mini D-sub 15 pin INPUT jack (RGB)
BNC VIDEO INPUT jack
BNC COMPONENT VIDEO INPUT jack (Y, P_B, P_R)
2 HDMI INPUT jacks (Digital)

NOTE:

INPUT 1 video and component video input can be input to both
BNC and RCA type.

Output terminals MONITOR/TV, AUDIO

Input terminal signal ratings

Input signal

Video signal:

Composite and S-VIDEO (Y): 1.0 Vp-p (75 ohms load)

COMPONENT (Y): 1.0 Vp-p (75 ohms load)

(P_B, P_R): 0.7 Vp-p (75 ohms load)

*Mini D-sub 15 pin (RGB): 0.7 Vp-p (75 ohms load)

*Digital signal: 3.3V T.M.D.S, 50 ohms

Audio signal (including CENTER): 400mV rms

Input impedance Video input: 75 ohms

Audio input (including CENTER): 22 kΩ
or more

Input signal polarity (Video) Synchronized negative

Output terminal signal ratings

Output signal Video signal: 1 Vp-p (75 ohms load)

Audio signal: 500 mV rms (100 % modulation)

Output impedance Video output: 75 ohms

Audio output: Less than 1 kilo-ohms

Effective output

Front both channels driven 10 W + 10 W

Built-in speaker system16 cm (6-5/16 in) full range x 2

* This jack cannot be used with a personal computer.

Tuner section

Circuit type Video signal detection:
PLL full synchronous detection
PLL digital synthesizer system
Audio multiplex: BTSC system

Reception channels.. VHF; CH2~CH13, UHF; CH14~CH69
CATV (STANDARD, IRC or HRC)
CATV 1-125 CH

Antenna terminals Antenna terminal, 75 ohms UNBAL,
F-type connector (VHF, UHF MIXED)

Electrical section, miscellaneous

Power requirements 120 V AC, 60 Hz

Power consumption..... 250 W, 450 VA (CSA)

Standby power consumption.....0.5W

External dimensions

PRO-730HDI1510 (W) x 1425 (H) x 709 (D) mm

59-7/16 (W) x 56-1/8 (H) x 27-15/16 (D) inch

PRO-530HDI1268 (W) x 1289 (H) x 640 (D) mm

49-15/16 (W) x 50-3/4 (H) x 25-3/16 (D) inch

Weight of main unit

PRO-730HDI155 kg (341 lb 11 oz)

PRO-530HDI 123 kg (271 lb 3 oz)

Wireless remote control unit

Operation system Infrared remote control system

Power source Two DURACELL[®]"AA" MN1500 1.5 V
ALKALINE dry cell batteries

Dimensions 55 (W) x 26 (H) x 242 (D) mm

2-3/16 (W) x 1-1/32 (H) x 9-17/32 (H) inch

Weight 120 g (5 oz) (without batteries)

Accessories

Operating instructions 1

Warranty card 1

Remote control unit 1

DURACELL[®]"AA" MN1500 1.5V

Alkaline dry cell batteries 2

Side frame cover 2

Frame cover..... 2

Panel Frame Attaching screw (spare) 2

NOTE:

Specifications and design are subject to possible modifications
without notice due to improvements.

2. EXPLODED VIEWS AND PARTS LIST

NOTES : ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

● The \triangle mark found on some component parts indicates the importance of the safety factor of the part.

Therefore, when replacing, be sure to use parts of identical designation.

● Screws adjacent to ▼ mark on the product are used for disassembly.

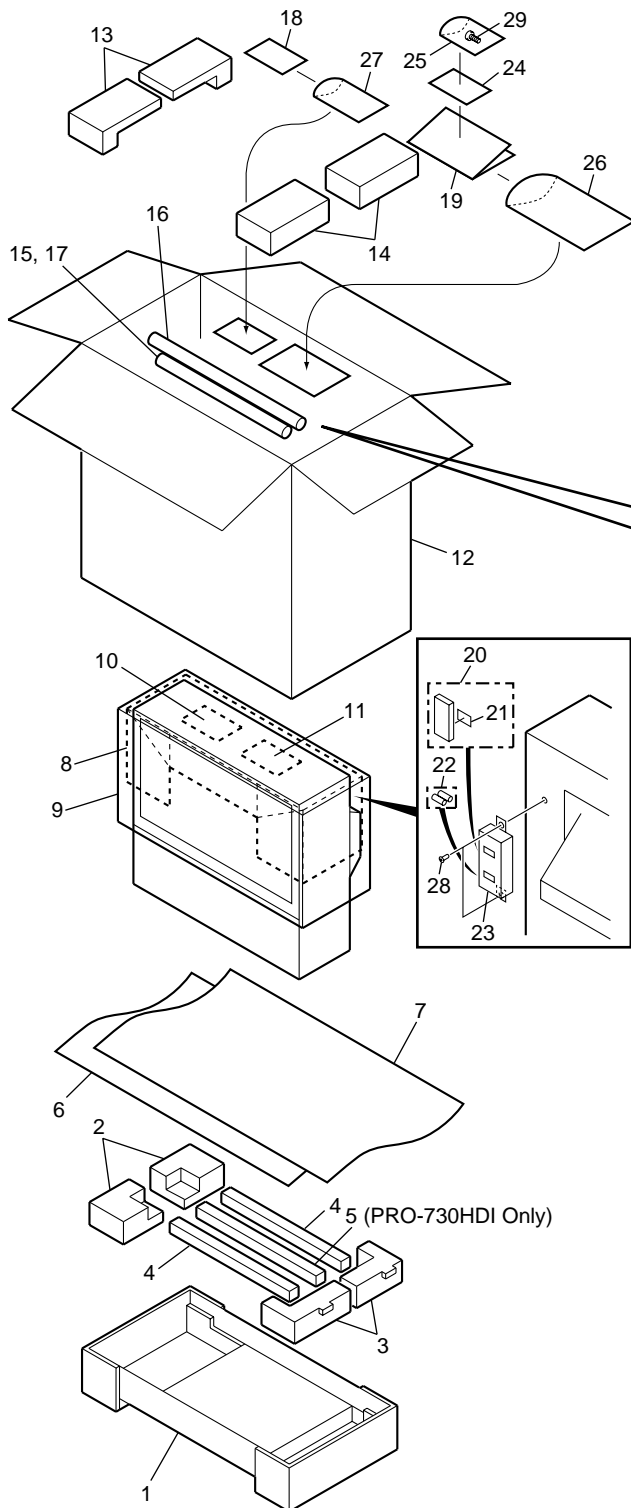
● For the applying amount of lubricants or glue, follow the instructions in this manual.

(In the case of no amount instructions, apply as you think it appropriate.)

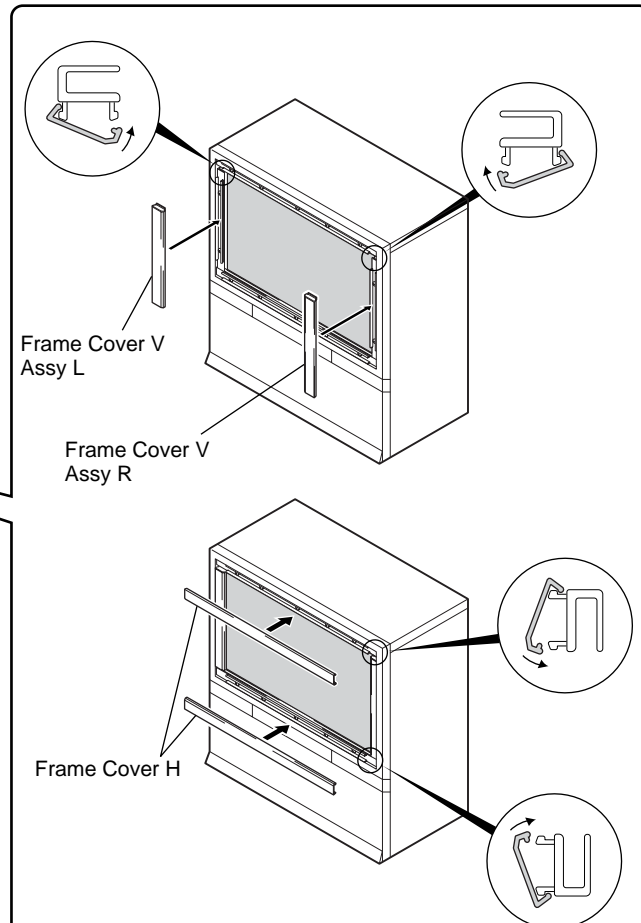
● Parts marked by ☆ are important parts which relate in X-rays radiation.

If any of these parts need to be replaced, always replace with specified parts.

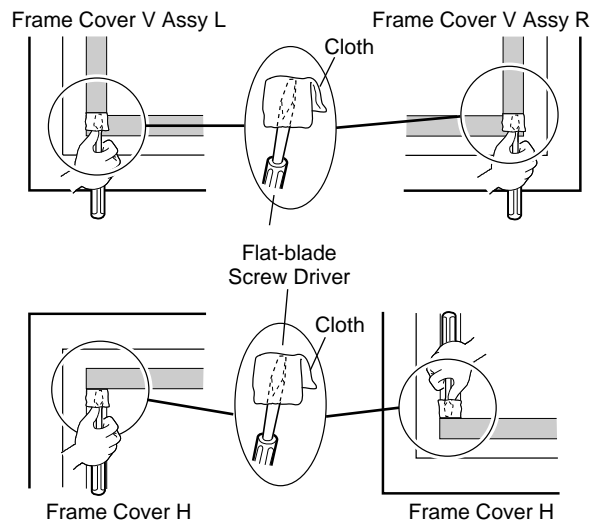
2.1 PACKING



● How to Attach the Frame Cover



● How to remove Frame Cover



(1) PACKING parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Under Carton	See Contrast table (2)	16	Frame Cover H	See Contrast table (2)
2	Under Pad L	See Contrast table (2)	17	Frame Cover V Assy R	See Contrast table (2)
3	Under Pad R	See Contrast table (2)	NSP 18	Warranty Card EL	ARY1122
NSP 4	Under Cushion A	See Contrast table (2)	19	Operating Instructions (English)	ARB1557
NSP 5	Under Cushion B	See Contrast table (2)	20	Remote Control Unit	AXD1485
6	Vinyl Sheet Under	See Contrast table (2)	21	Battery Cover	AZA7424
NSP 7	Packing Sheet Under	See Contrast table (2)	NSP 22	Alkaline Dry Cell Battery (LR6, AA)	AEX1018
NSP 8	Packing Sheet	See Contrast table (2)	23	CU Packing Case	AHC1050
NSP 9	Vinyl Sheet	See Contrast table (2)	NSP 24	Caution Card	ARM1057
10	CONV. Attention Card	ARM1231	NSP 25	Wrapper Bag	AHG1076
11	Panel Caution Card	ARH1174	NSP 26	Literature Bag	AHG1222
12	Upper Carton	See Contrast table (2)	NSP 27	Polyethylene Bag	AHG1285
13	Upper Pad L	See Contrast table (2)	28	Screw	ABA1239
14	Upper Pad R	See Contrast table (2)	29	Screw	ABA1226
15	Frame Cover V Assy L	See Contrast table (2)			

(2) CONTRAST TABLE

PRO-730HDI/KUXC/CA and PRO-530HDI/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HDI/ KUXC/CA	PRO-530HDI/ KUXC/CA
	1	Under Carton (64W)	AHD2995	Not used
	1	Under Carton (53W)	Not used	AHD3048
	2	Under Pad L	AHA2224	AHA2255
	3	Under Pad R	AHA2225	AHA2256
NSP	4	Under Cushion A	AHA2228	Not used
NSP	4	Under Cushion A (53W)	Not used	AHA2260
NSP	5	Under Cushion B	AHA2229	Not used
	6	Vinyl Sheet 64W Under	AHG1289	Not used
	6	Vinyl Sheet 60 Under	Not used	AHG1234
NSP	7	Packing Sheet 64W Under	AHG1290	Not used
NSP	7	Packing Sheet 60L	Not used	AHG1235
NSP	8	Packing Sheet (60)	AHG1230	Not used
NSP	8	Packing Sheet (50, 45)	Not used	AHG1120
NSP	9	Vinyl Sheet 64W Upper	AHG1288	Not used
NSP	9	Vinyl Sheet XL	Not used	AHG1095
	12	Upper Carton (64W)	AHD3186	Not used
	12	Upper Carton (53W)	Not used	AHD3184
	13	Upper Pad L	AHA2222	AHA2253
	14	Upper Pad R	AHA2223	AHA2254
	15	Frame Cover V Assy L 64	AAP1664	Not used
	15	Frame Cover V Assy L 53	Not used	AAP1660
	16	Frame Cover H (64W)	AAP1593	Not used
	16	Frame Cover H (53W)	Not used	AAP1614
	17	Frame Cover V Assy R 64	AAP1665	Not used
	17	Frame Cover V Assy R 53	Not used	AAP1661

2.2 FRONT SECTION (1)

A

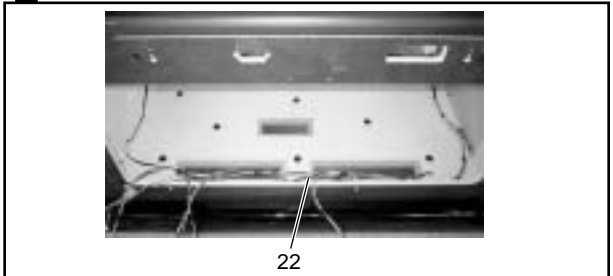
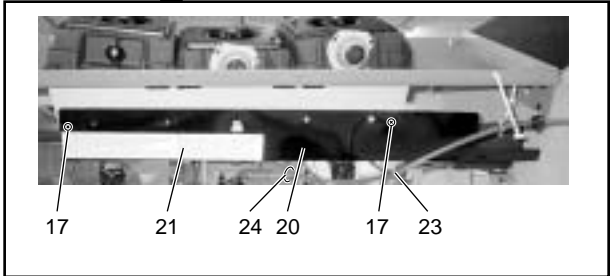
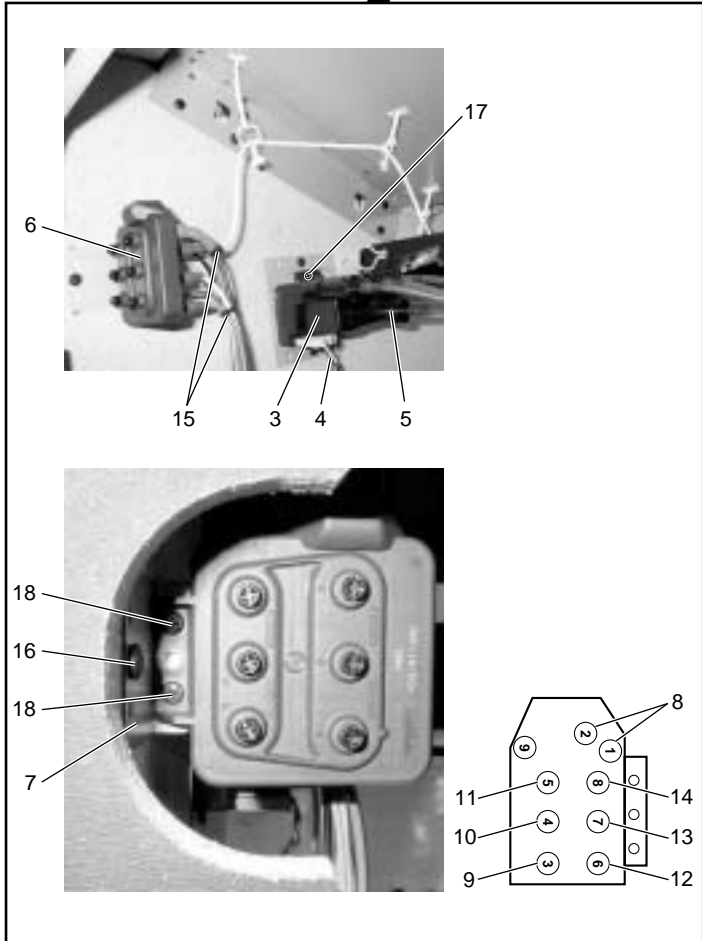
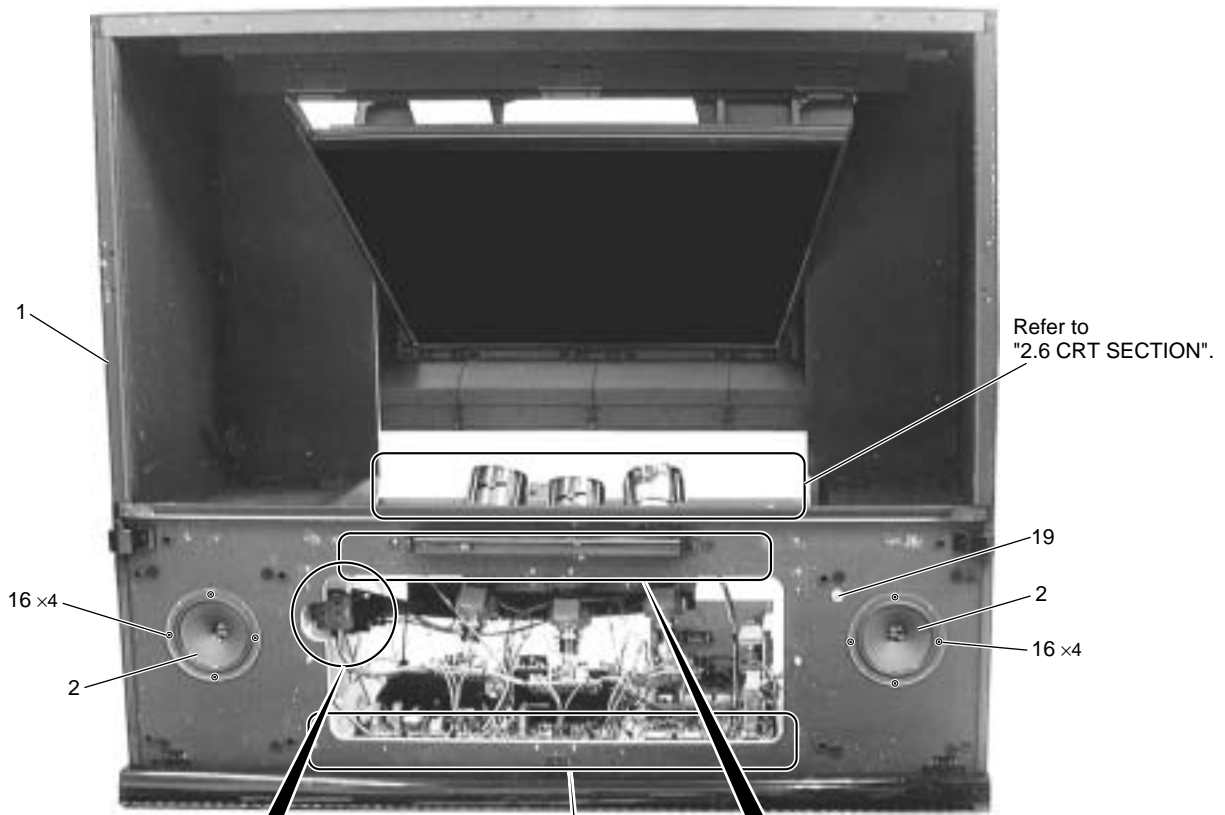
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C

D

E

F



(1) FRONT SECTION (1) parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
NSP 1	Cabinet	See Contrast table (2)	15	Nylon Binder	AEC-093
2	Cone Speaker	APV1021	16	Screw	ABA1240
3	HV Distributor	AXW1050	17	Screw	ABZ30P120FZK
4	5P HV Return Wire (J2)	ADX2658	18	Screw	BBZ30P080FZK
5	HV Cable (J9)	ADY1064	NSP 19	UL Caution Card	AAX1238
⚠ 6	Focus Volume (VR1)	ACX1097	NSP 20	Tray	AMR3337
NSP 7	VR Holder	ANG1956	NSP 21	Solder Warning Label	AAX2835
8	4P Housing Wire (J11)	ADX2801	22	Wire Harness A (J12)	ADX2817
9	1P Lead Wire (J3)	ADX2659	23	Purse Lock	AEC1540
10	1P Lead Wire (J4)	ADX2660	NSP 24	Purse Lock S	AEC1261
11	1P Lead Wire (J5)	ADX2661			
12	1P Lead Wire (J6)	ADX2662			
13	1P Lead Wire (J7)	ADX2663			
14	1P Lead Wire (J8)	ADX2664			

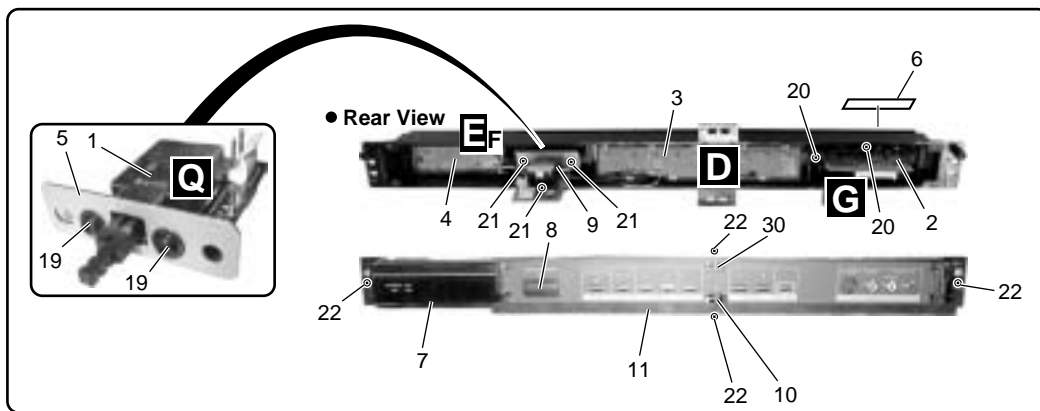
(2) CONTRAST TABLE

PRO-730HDI/KUXC/CA and PRO-530HDI/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HDI/ KUXC/CA	PRO-530HDI/ KUXC/CA
NSP	1	Cabinet (64W)	AMM3372	Not used
NSP	1	Cabinet (53W)	Not used	AMM3370

2.3 FRONT SECTION (2)

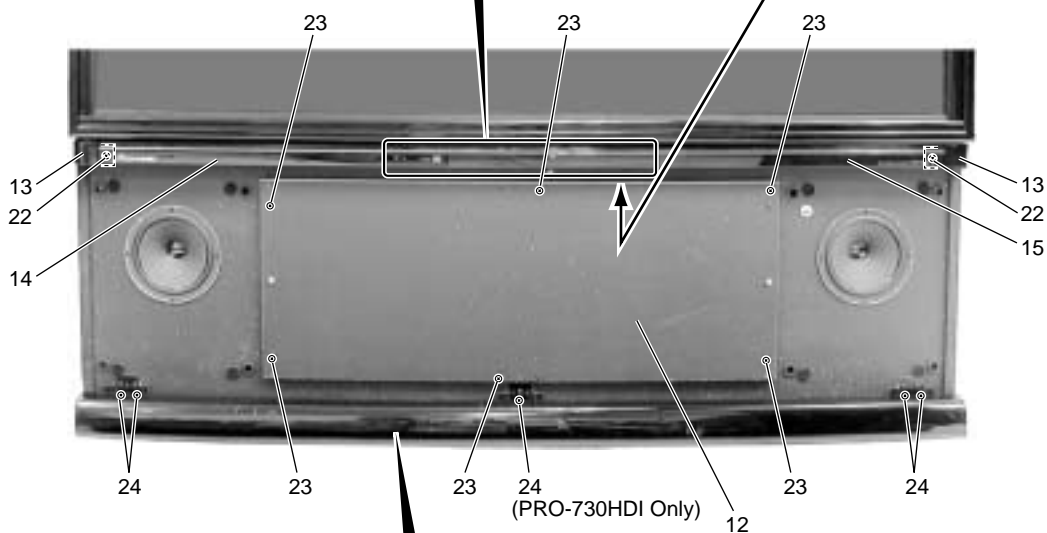
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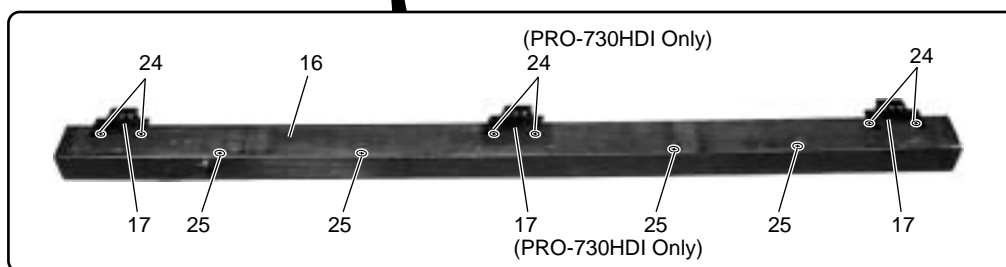
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• How to check the serial number:
Remove the grille and look at the front panel from below.

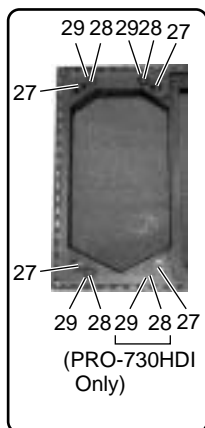
C



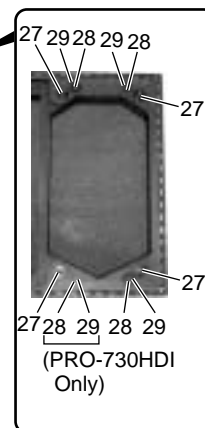
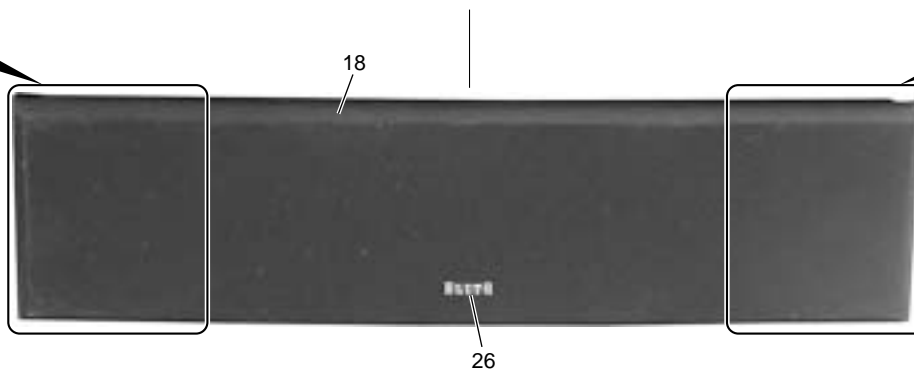
D



E



F



(1) FRONT SECTION (2) parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	POWER SW Assy	AWZ6713	NSP 16	Bottom Rail	See Contrast table (2)
2	FRONT INPUT Assy	AWZ6715	17	Bottom Rail Holder	ANG2289
3	FRONT CONTROL Assy	AWZ6718	18	Grille	See Contrast table (2)
4	LED RLS Assy	AWZ6822	19	Screw	AMZ30P060FZK
NSP 5	Switch Holder	ANG2313	20	Screw	ABZ40P080FZK
NSP 6	Serial Tag	AAX1144	21	Screw	APZ30P080FZK
7	Front Panel Assy	AMB2792	22	Screw	ABA1240
8	Power Knob	AAD4105	23	Screw	ABA1249
NSP 9	Front Shield	ANK1502	24	Screw	ABA1239
10	Axis Damper	AXA1016	25	Screw	ABA1263
11	Door Assy	AAN1472	26	ELITE Badge	AAM1081
12	Blind Plate	AMM3222	NSP 27	Catcher A	ANZ-241
13	Side Cover	AMR3107	28	Screw	ABA1271
14	Side Panel Assy L	See Contrast table (2)	29	Magic Tape	AEC1394
15	Side Panel Assy R	See Contrast table (2)	30	Catcher F2M	AEC1609

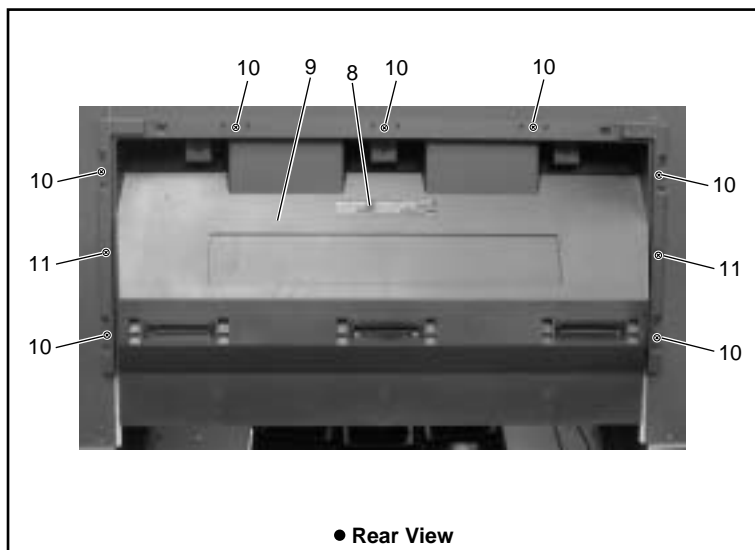
(2) CONTRAST TABLE

PRO-730HDI/KUXC/CA and PRO-530HDI/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HDI/ KUXC/CA	PRO-530HDI/ KUXC/CA
NSP NSP	14	Side Panel Assy 64L	AMB2747	Not used
	14	Side Panel Assy 53L	Not used	AMB2700
	15	Side Panel Assy 64R	AMB2795	Not used
	15	Side Panel Assy 53R	Not used	AMB2793
	16	Bottom Rail 64	AMM2945	Not used
	16	Bottom Rail 53	Not used	AMM3012
	18	Grille (64W)	AMM3225	Not used
	18	Grille (53W)	Not used	AMM3223

2.4 MIRROR SECTION

A



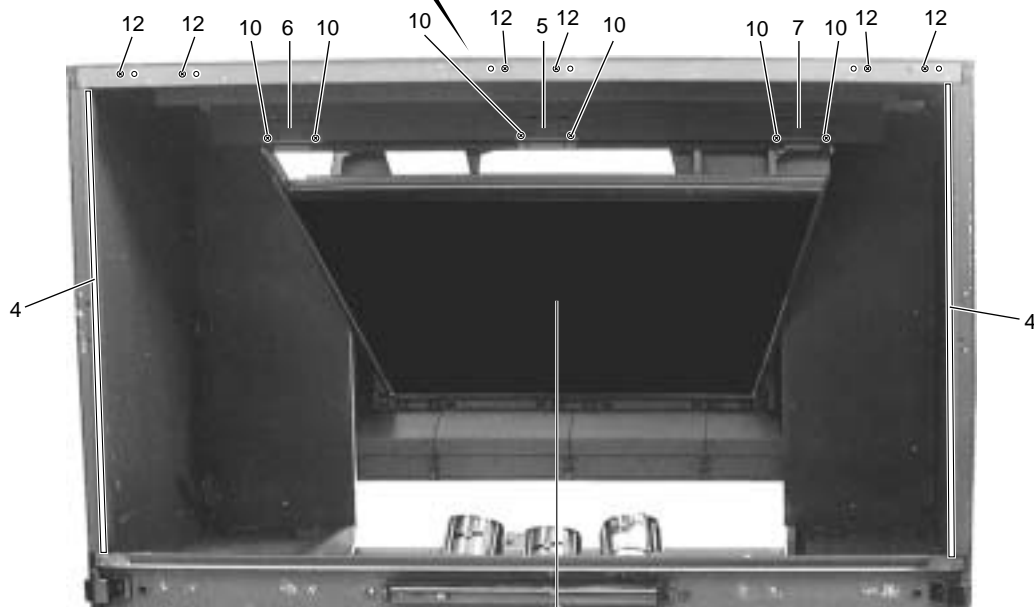
Caution :

Be sure to remove the mirror inside the cabinet before removing the mirror case. If the mirror case is removed first, the mirror will fall and likely become damaged.

A Torx driver is required to remove the No.11 screws.

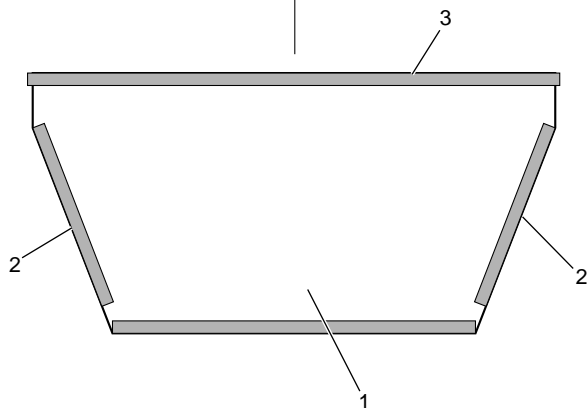
B

C



D

E



F

(1) MIRROR SECTION parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Mirror	See Contrast table (2)	11	Screw	PYC40T140FZB
2	Mirror Frame V	See Contrast table (2)	12	Screw	BYC35P160FZK
3	Mirror Frame H	See Contrast table (2)			
4	Screen Cushion	See Contrast table (2)			
NSP 5	Mirror Upper Stay C	ANG2006			
NSP 6	Mirror Upper Stay L	ANG2004			
NSP 7	Mirror Upper Stay R	ANG2005			
NSP 8	Mirror Case Label	AAX2448			
9	Mirror Case (51)	AME2296			
10	Screw	ABA1240			

(2) CONTRAST TABLE

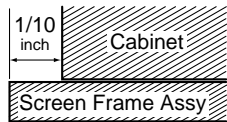
PRO-730HDI/KUXC/CA and PRO-530HDI/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HDI/ KUXC/CA	PRO-530HDI/ KUXC/CA
	1	Mirror 64W	AMR3333	Not used
	1	Mirror 53W	Not used	AMR3331
	2	Mirror Frame V 64WB	ANG2392	Not used
	2	Mirror Frame V 53WB	Not used	ANG2524
	3	Mirror Frame H 64WB	ANG2391	Not used
	3	Mirror Frame H 53WB	Not used	ANG2372
	4	Screen Cushion 64	AEC1778	Not used
	4	Screen Cushion 53	Not used	AEC1831

2.5 SCREEN SECTION

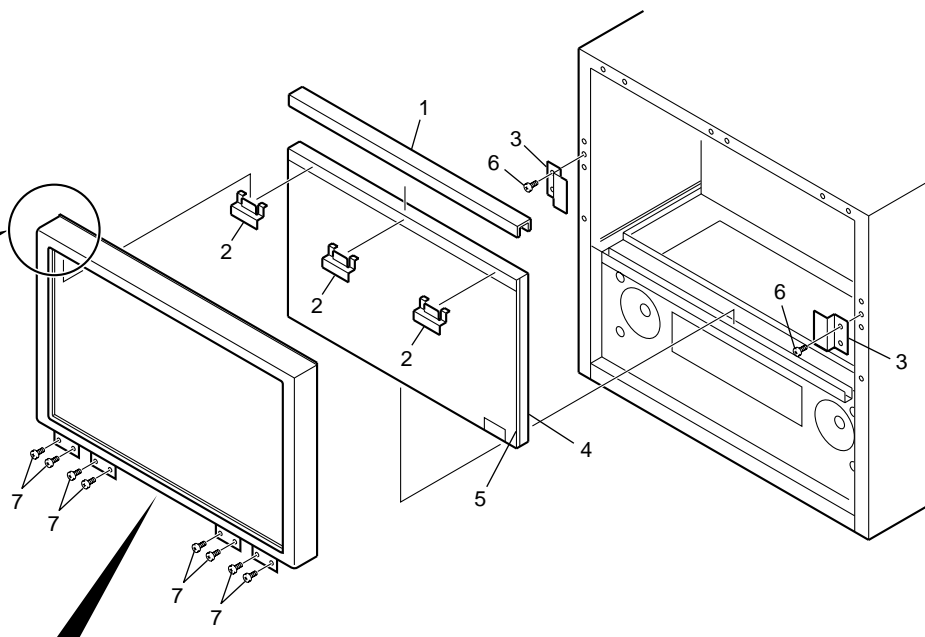
A

When attaching the screen holder to the cabinet, make the left side basically level.

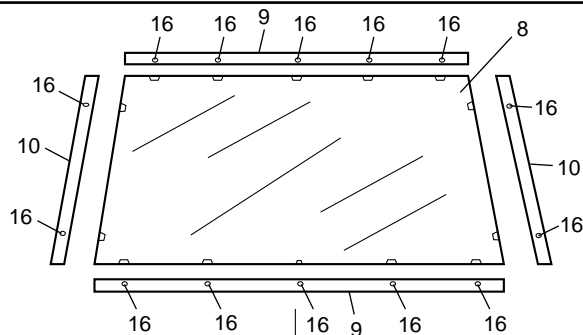


• Top View

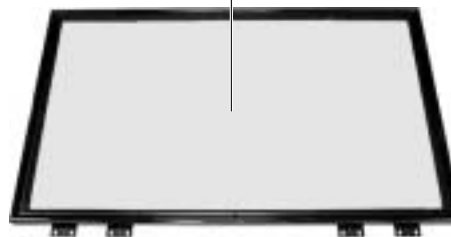
B



C



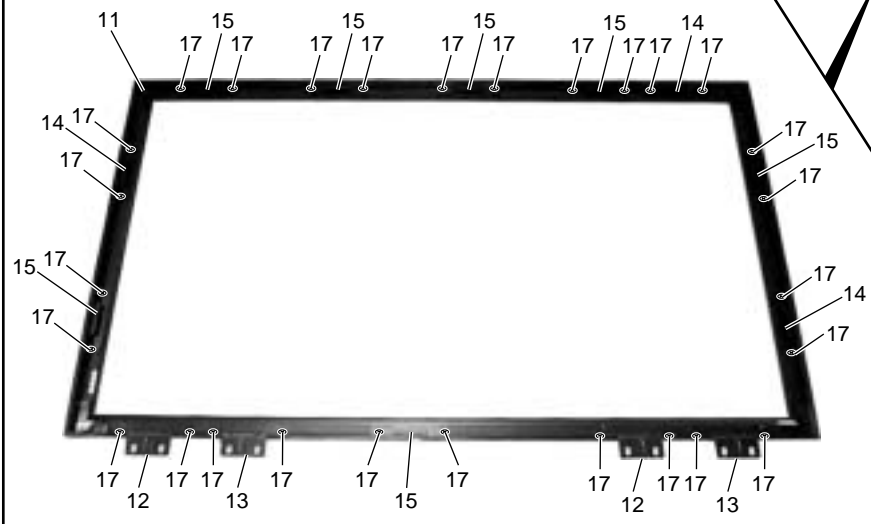
D



• Front View

E

• Rear View



F

(1) SCREEN SECTION parts List

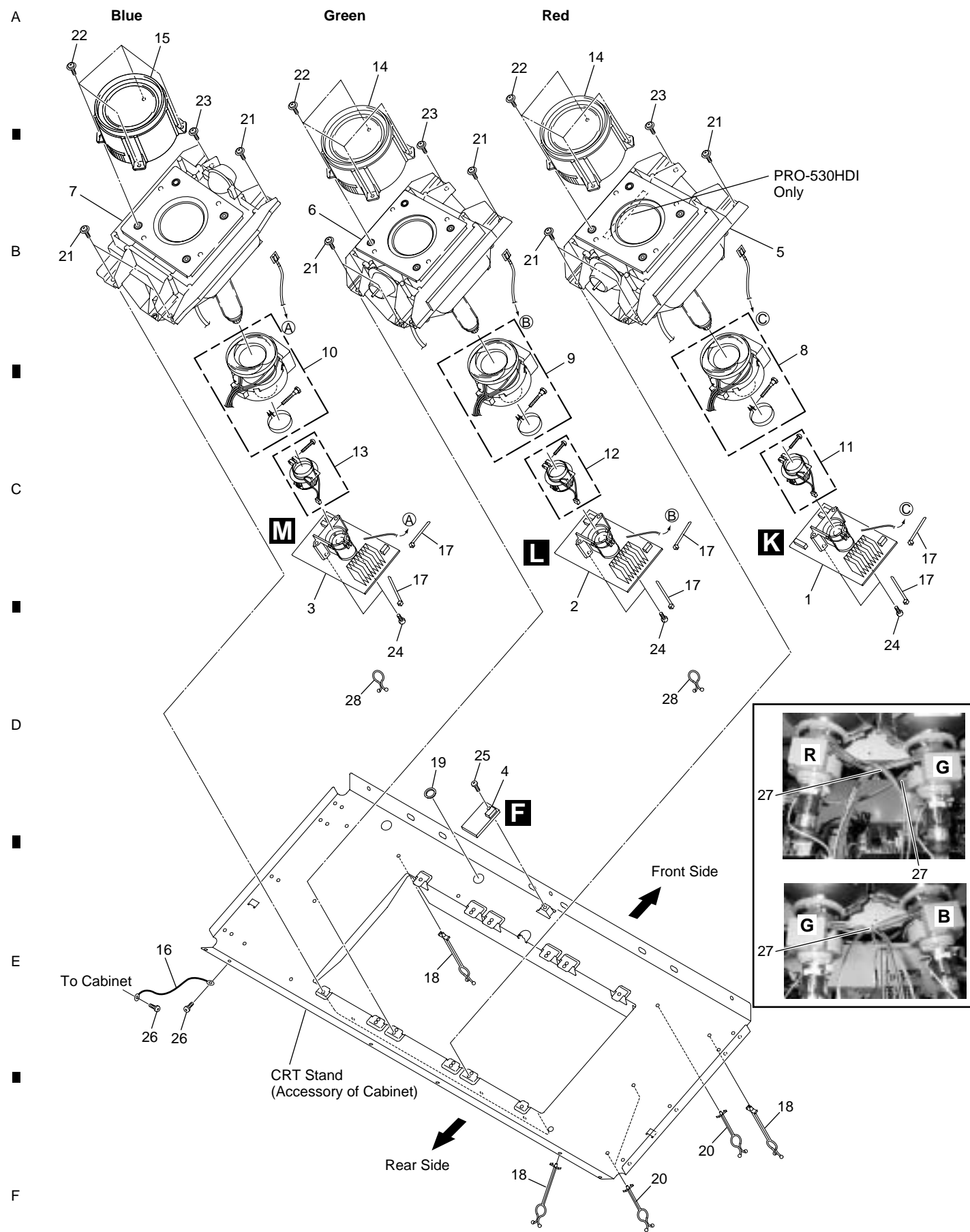
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screen Holder TOP	See Contrast table (2)	11	Screen Frame Assy	See Contrast table (2)
NSP 2	Upper Cabinet Metal	ANG2000	NSP 12	Under Screen Metal A	ANG2003
NSP 3	Screen Side Fitting	ANG1993	NSP 13	Under Screen Metal B	ANG2009
4	Fresnel	See Contrast table (2)	NSP 14	Upper Screen Metal A	ANG2001
5	Lenticular Sheet	See Contrast table (2)	NSP 15	Upper Screen Metal B	ANG2002
6	Screw	ABA1240	16	Screw	ABA1226
7	Screw	ABA1189	17	Screw	BYC40P160FMC
8	AR Panel	See Contrast table (2)			
9	Panel Frame H	See Contrast table (2)			
10	Panel Frame V	See Contrast table (2)			

(2) CONTRAST TABLE

PRO-730HDI/KUXC/CA and PRO-530HDI/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HDI/ KUXC/CA	PRO-530HDI/ KUXC/CA
	1	Screen Holder TOP 64W	ANG2530	Not used
	1	Screen Holder TOP 53W	Not used	ANG2370
	4	Fresnel 64W	AMR3330	Not used
	4	Fresnel 53W	Not used	AMR3328
	5	Lenticular Sheet 64W	AMR3390	Not used
	5	Lenticular Sheet 53W	Not used	AMR3388
	8	AR Panel (64W)	AAK2791	Not used
	8	AR Panel (53W)	Not used	AAK2789
	9	Panel Frame H (64W)	AND1174	Not used
	9	Panel Frame H (53W)	Not used	AND1172
	10	Panel Frame V (64W)	AND1177	Not used
	10	Panel Frame V (53W)	Not used	AND1175
	11	Screen Frame Assy (64W)	AAP1655	Not used
	11	Screen Frame Assy (53W)	Not used	AAP1653

2.6 CRT SECTION



(1) CRT SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	R CRT DRIVE Assy	AWZ6709	⚠ 16	1P Lead Wire (J15)	ADX2505
2	G CRT DRIVE Assy	AWZ6710	17	Binder	AEC-093
3	B CRT DRIVE Assy	AWZ6711	18	Cord Holder	AEC1257
4	REMOTE SENSOR Assy	AWZ6717	19	Bushing	AEC1869
☆ 5	CRT SERVICE Assy R	See Contrast table (2)	NSP 20	Lead Clamper M	AEC1611
☆ 6	CRT SERVICE Assy G	AWY1444	21	Screw	ABA1168
☆ 7	CRT SERVICE Assy B	See Contrast table (2)	22	Screw	AMZ40P080FZK
⚠ 8	Deflection Yoke (L1)	ATL1144	23	Screw	FBT40P120FZK
⚠ 9	Deflection Yoke (L2)	ATL1144	24	Screw	BPZ30P080FZK
⚠ 10	Deflection Yoke (L3)	ATL1144	25	Screw	BBZ30P080FZK
⚠ 11	VM Coil (L4)	ATL1146	26	Screw	ABZ30P120FZK
⚠ 12	VM Coil (L5)	ATL1146	NSP 27	Purse Lock S	AEC1261
⚠ 13	VM Coil (L6)	ATL1146	28	Purse Lock	AEC1540
☆ 14	Lens Assy	See Contrast table (2)			
☆ 15	Lens Assy	See Contrast table (2)			

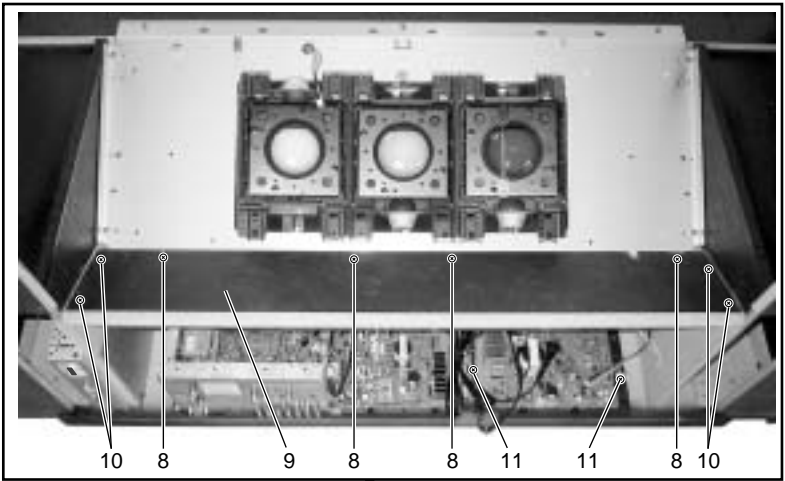
(2) CONTRAST TABLE

PRO-730HDI/KUXC/CA and PRO-530HDI/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HDI/ KUXC/CA	PRO-530HDI/ KUXC/CA
☆	5	CRT SERVICE Assy 64R	AWY1448	Not used
☆	5	CRT SERVICE Assy 53R	Not used	AWY1443
☆	7	CRT SERVICE Assy 58B	AWY1447	Not used
☆	7	CRT SERVICE Assy 53B	Not used	AWY1445
☆	14	Lens Assy	AMR3235	AMR3248
☆	15	Lens Assy	AMR3321	AMR3321

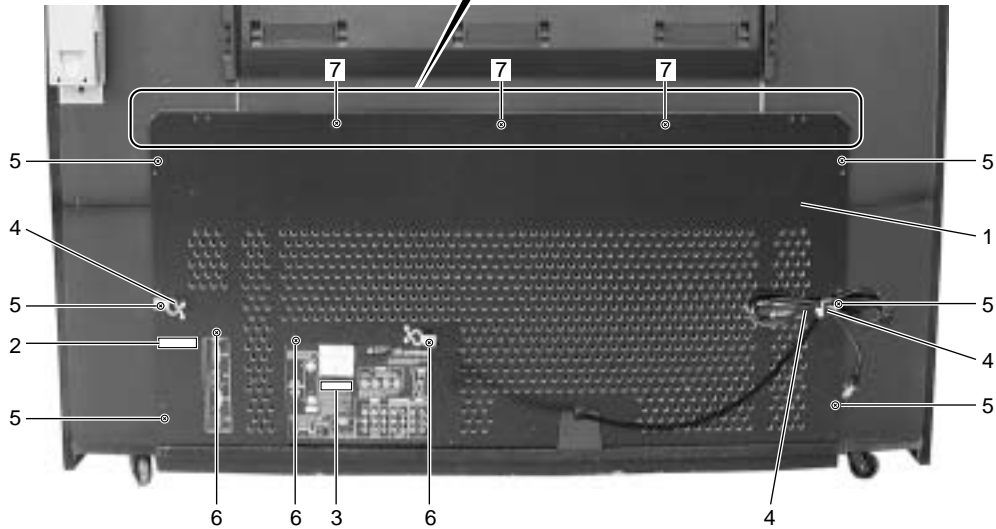
2.7 REAR SECTION

A

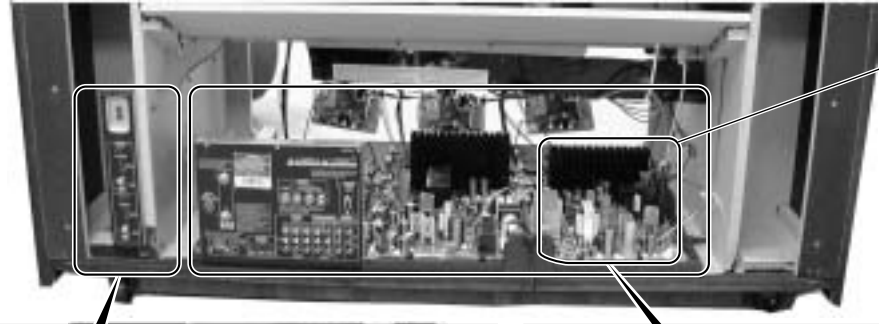


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C

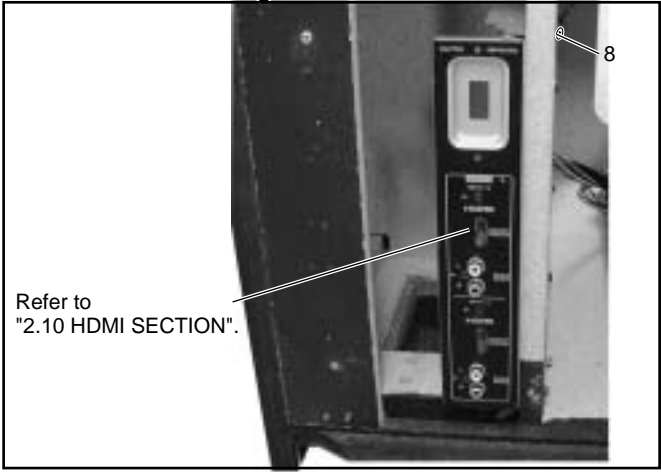


D

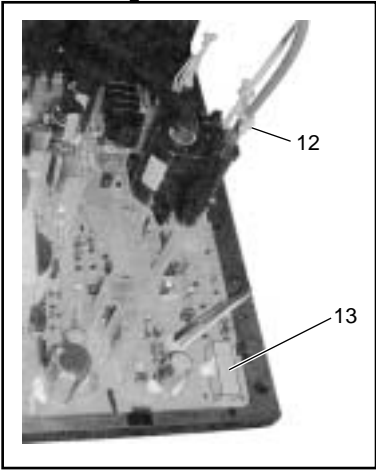


Refer to "2.8 CHASSIS SECTION".

E



F



(1) REAR SECTION parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Rear Cover	See Contrast table (2)			
NSP 2	DVI Caution Label	AAX2954	11	Screw	ABA1296
NSP 3	Serial Tag	AAX2548	12	Cable Clip	AEC1369
NSP 4	Cabinet Wire Holder	AEC1263	13	Volume Case	ANK1682
5	Screw	ABA1240			
6	Screw	ABZ30P120FZK			
7	Screw	ABA1269			
8	Screw	ABA1286			
NSP 9	Back Cover Panel	See Contrast table (2)			
10	Screw	ABA1241			

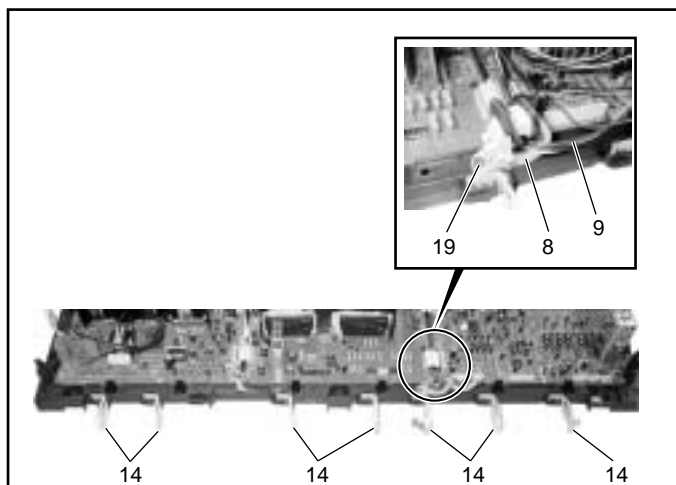
(2) CONTRAST TABLE

PRO-730HDI/KUXC/CA and PRO-530HDI/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HDI/ KUXC/CA	PRO-530HDI/ KUXC/CA
	1	Rear Cover 64	AMM3221	Not used
	1	Rear Cover 53, 58	Not used	AMM3220
NSP	9	Back Cover Panel 64	AMM3219	Not used
NSP	9	Back Cover Panel 53, 58	Not used	AMM3218

2.8 CHASSIS SECTION

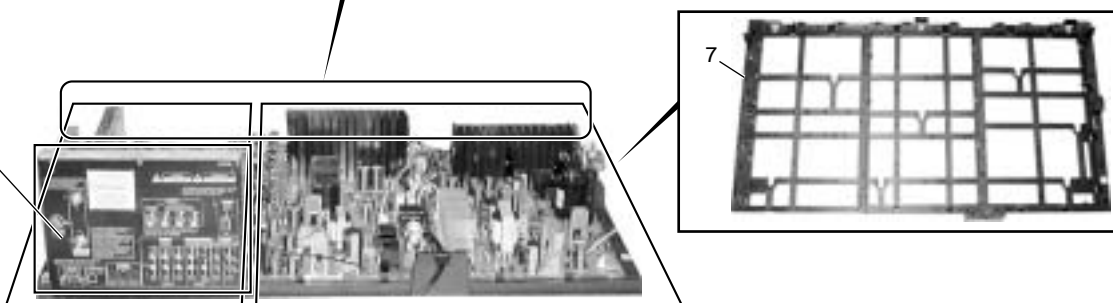
A



B

C

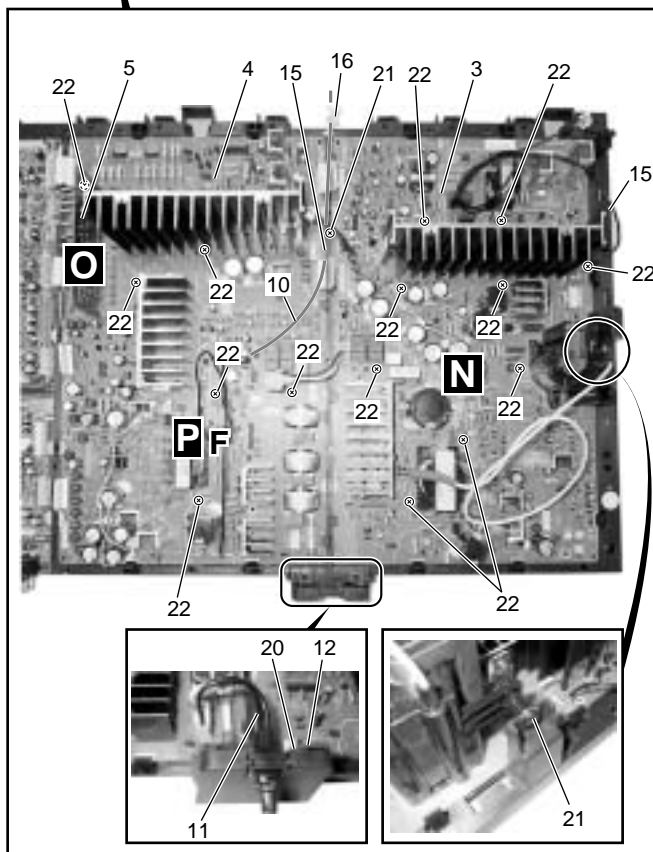
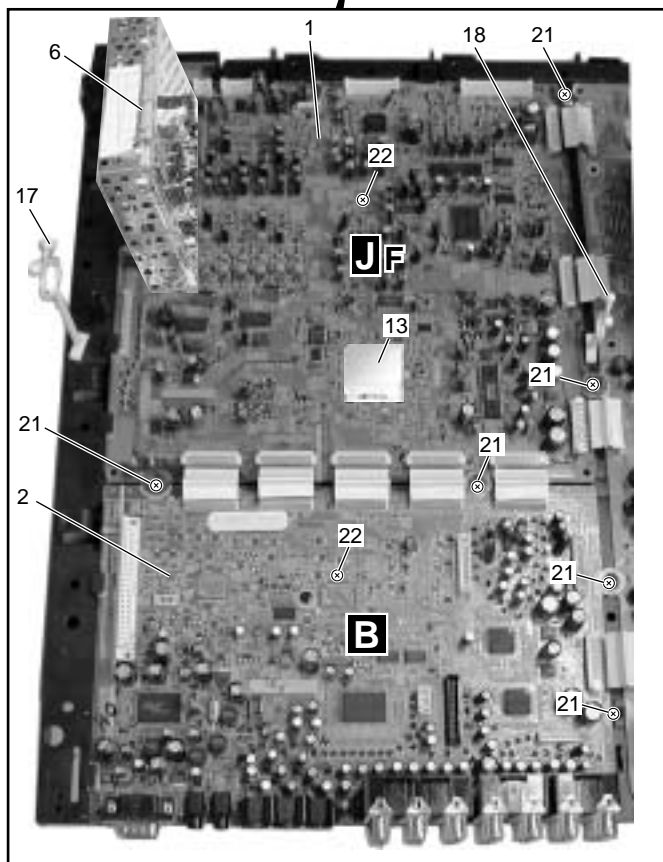
Refer to
"2.10 REAR PANEL
SECTION".



D

E

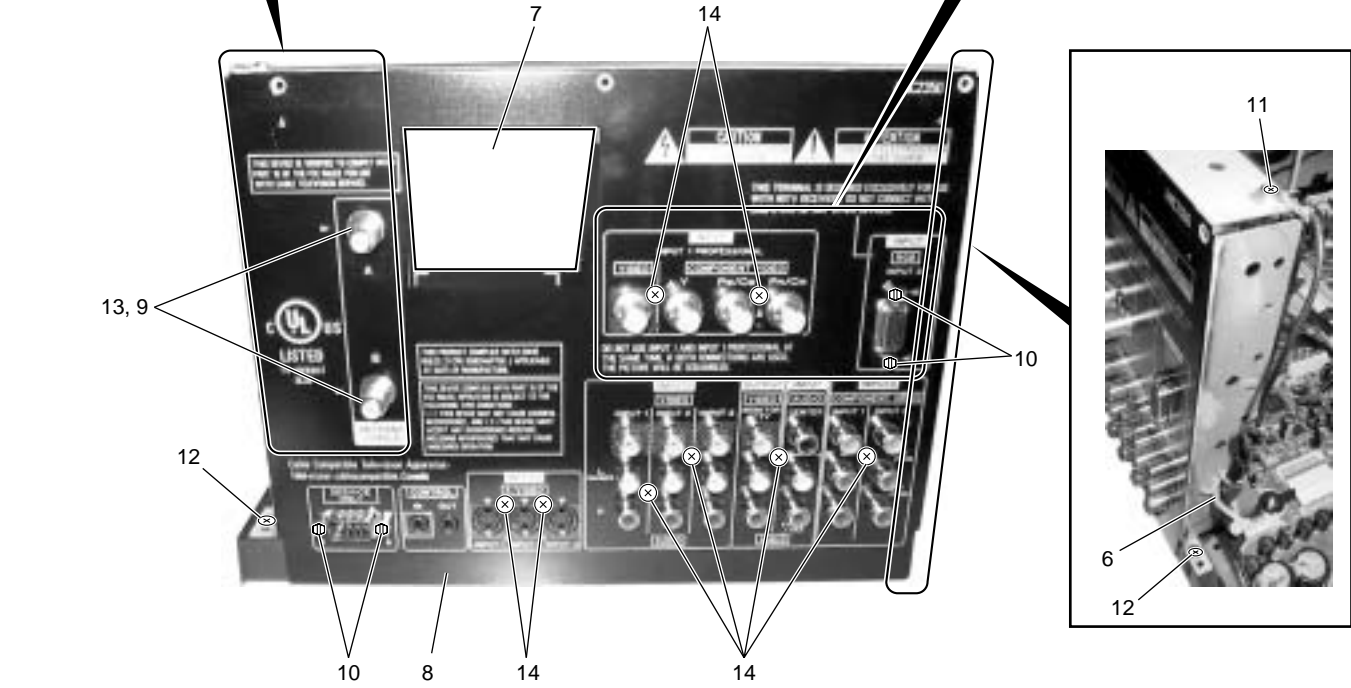
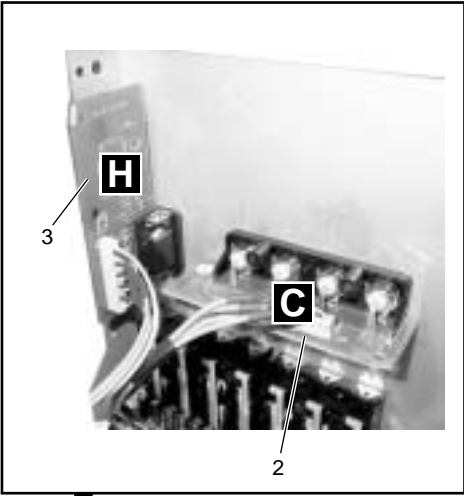
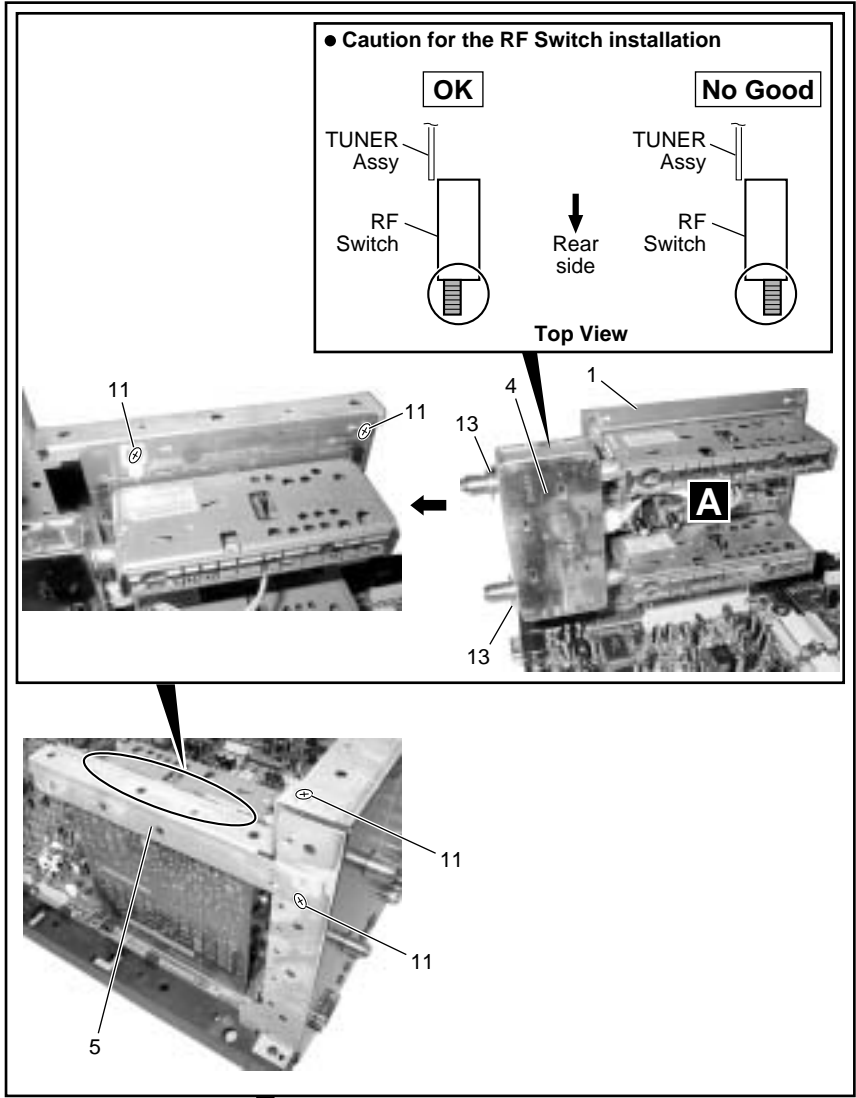
F



CHASSIS SECTION parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	VIDEO UCOM SERVICE Assy	AWV2058
2	SIGNAL Assy	AWZ6716
☆ 3	DEFLECTION SERVICE Assy	AWV1967
4	POWER SUPPLY Assy	AWV2057
5	DIGITAL CONV. Assy	AWV1966
6	Progressive Unit	AXY1076
NSP 7	Chassis	AMA1013
8	Ferrite Core (L9)	ATX1045
9	4P Housing Wire (J13)	ADX2818
10	2P Housing Wire (J10)	ADX2816
⚠ 11	Power Cord	ADG1205
NSP 12	AC Cord Holder	ANG2539
NSP 13	U-COM Shield	ANK1697
NSP 14	Cabinet Wire Holder	AEC1263
NSP 15	Lead Clamper M	AEC1611
16	Cable Clip	AEC1911
17	Cord Holder	AEC1257
18	Cable Clip	AEC1806
19	Screw	PPZ40P120FMC
20	Screw	ABZ30P120FZK
21	Screw	ABA1235
22	Screw	BPZ30P140FZK

2.9 REAR PANEL SECTION



(1) REAR PANEL SECTION parts List

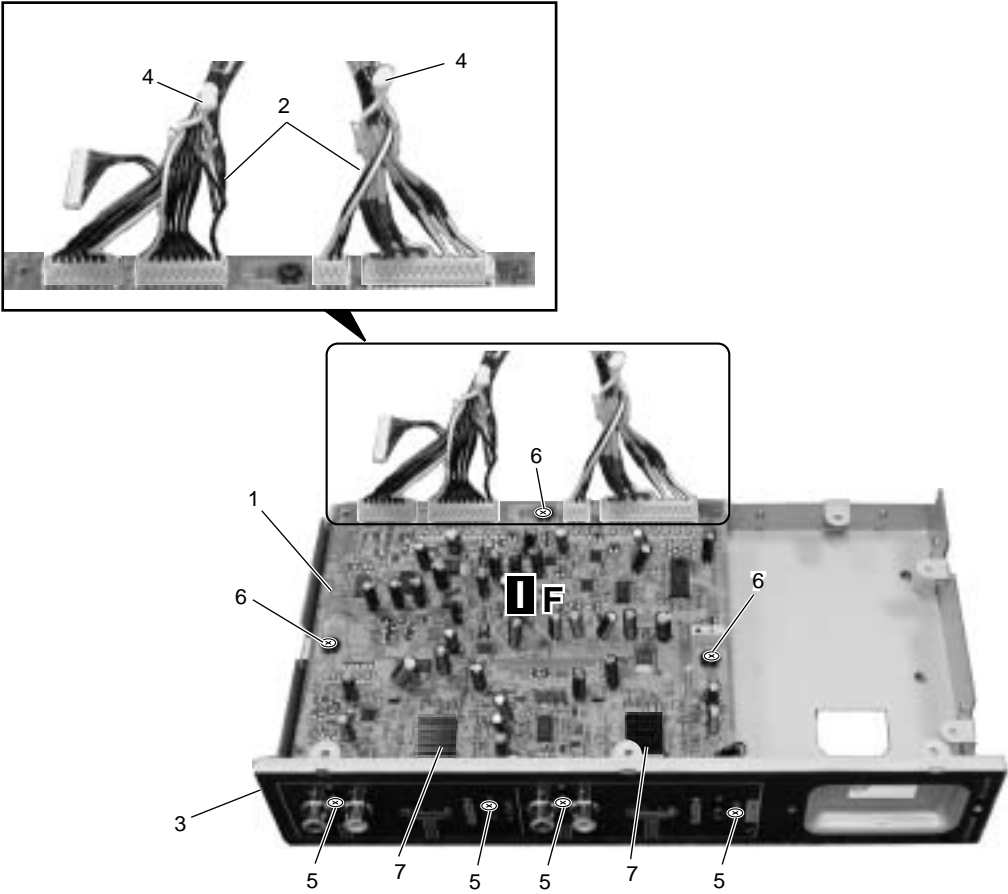
<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	TUNER Assy	AWZ6712	11	Screw	BBZ30P080FCU
2	BNC Assy	AWZ6720	12	Screw	BPZ30P140FZK
3	D-SUB Assy	AWZ6714	13	Washer	WAX0F160N100
4	RF Switch	AXF1109	14	Screw	BPZ30P100FZK
NSP 5	PCB Holder	ANG2520			
NSP 6	Cable Clip D3S	AEC1782			
NSP 7	ID Label	See Contrast table (2)			
8	Rear Panel	ANC2350			
9	Nut	BBN1005			
10	Hexagonal Head Screw	BBA1051			

(2) CONTRAST TABLE

PRO-730HDI/KUXC/CA and PRO-530HDI/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HDI/ KUXC/CA	PRO-530HDI/ KUXC/CA
NSP	7	ID Label 64	AAL2475	Not used
NSP	7	ID Label 53	Not used	AAL2473

2.10 HDMI SECTION



HDMI SECTION parts List

Mark No.	Description	Part No.
1	HDMI SERVICE Assy	AWV2061
2	Wire Harness B (J14)	ADX2861
NSP 3	HDMI Chassis	ANA1758
NSP 4	Lead Clamper M	AEC1611
5	Screw	BBZ30P080FZK
6	Screw	ABZ30P100FZK
NSP 7	HDMI Heatsink	ANH1622

3. CONTRAST OF MISCELLANEOUS PARTS

CONTRAST TABLE

PRO-730HDI/KUXC/CA, PRO-530HDI/KUXC/CA and PRO-730HD/KUXC/CA are constructed the same except for the following :

Mark	No.	Symbol and Description	PRO-730HD/ KUXC/CA	PRO-730HDI/ KUXC/CA	PRO-530HDI/ KUXC/CA	Remarks
		PCB ASSEMBLY				
		1..DVI SERVICE ASSY	AWV1983	Not used	Not used	
		1..HDMI SERVICE ASSY	Not used	AWV2061	AWV2061	*1
		1..VIDEO UCOM SERVICE ASSY	AWV1992	AWV2058	AWV2058	*1
		1..POWER SUPPLY ASSY	AWV1960	AWV2057	AWV2057	*1
		1..SIGNAL ASSY	AWV1964	AWV2052	AWV2052	
		2..LED RLS ASSY	AWZ6719	AWZ6822	AWZ6822	*1

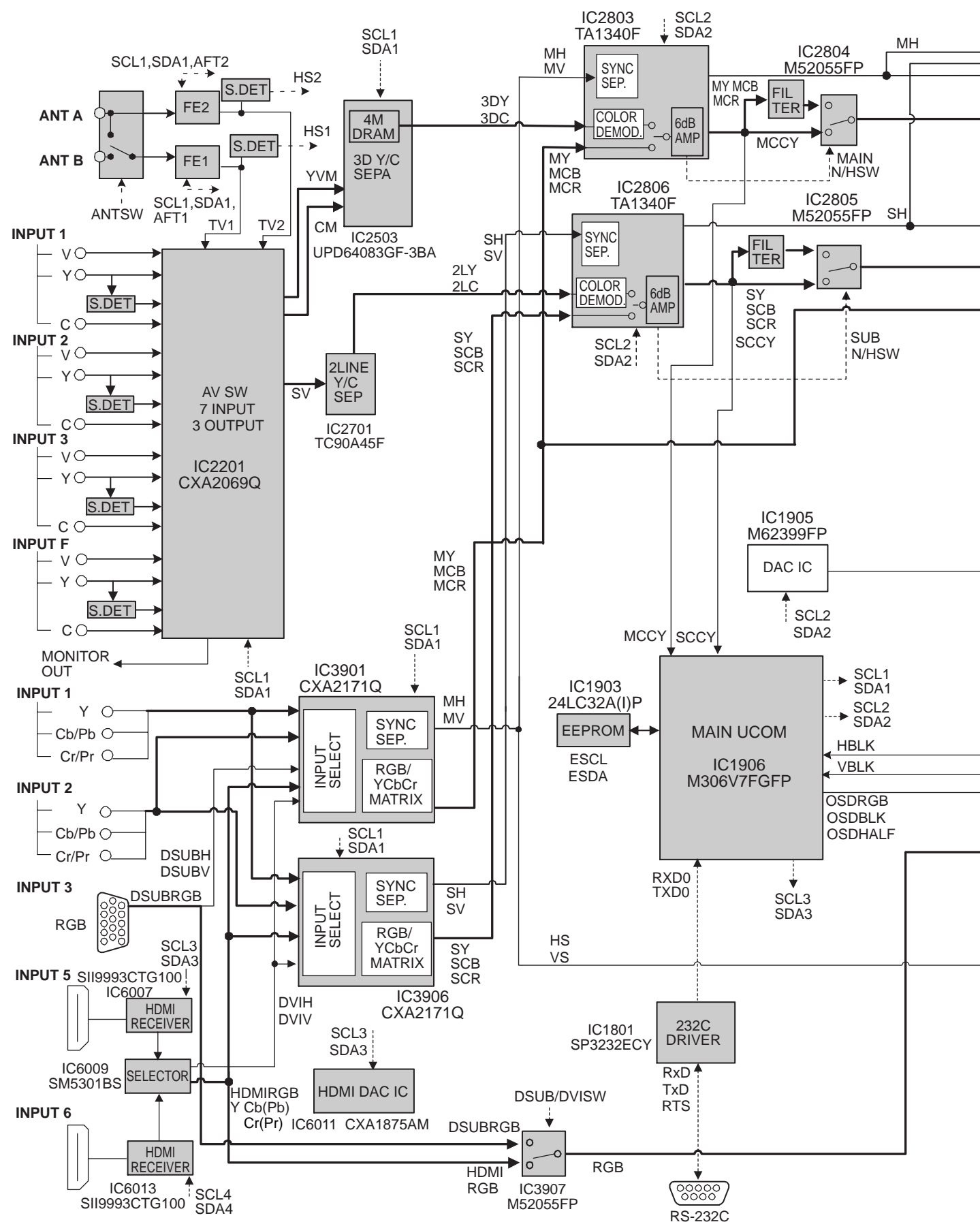
Note:

*1. The PCB ASSEMBLIES, Refer to .“4. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM, 5.PCB CONNECTION DIAGRAM and PCB PARTS LIST”.

4. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

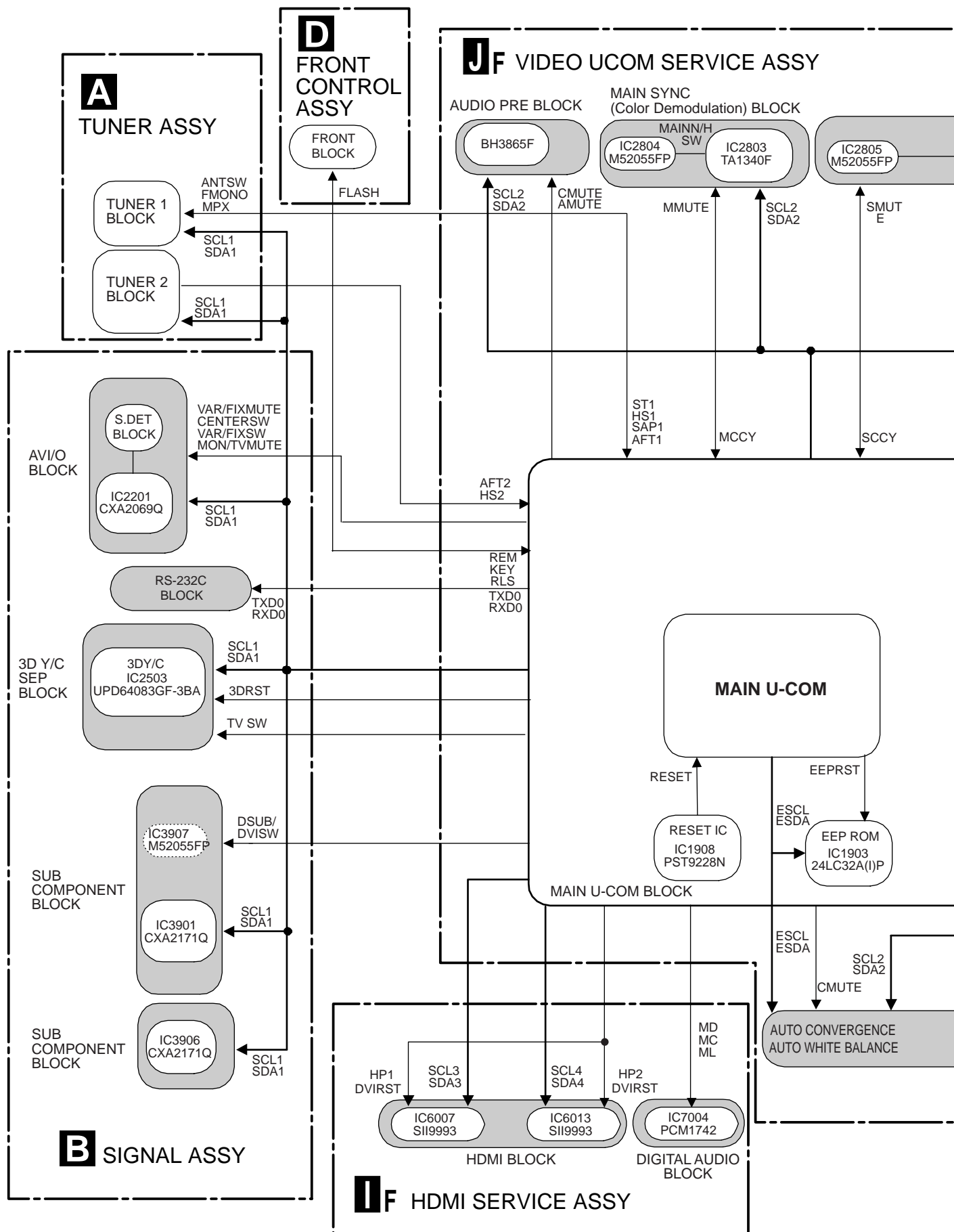
4.1 BLOCK DIAGRAM

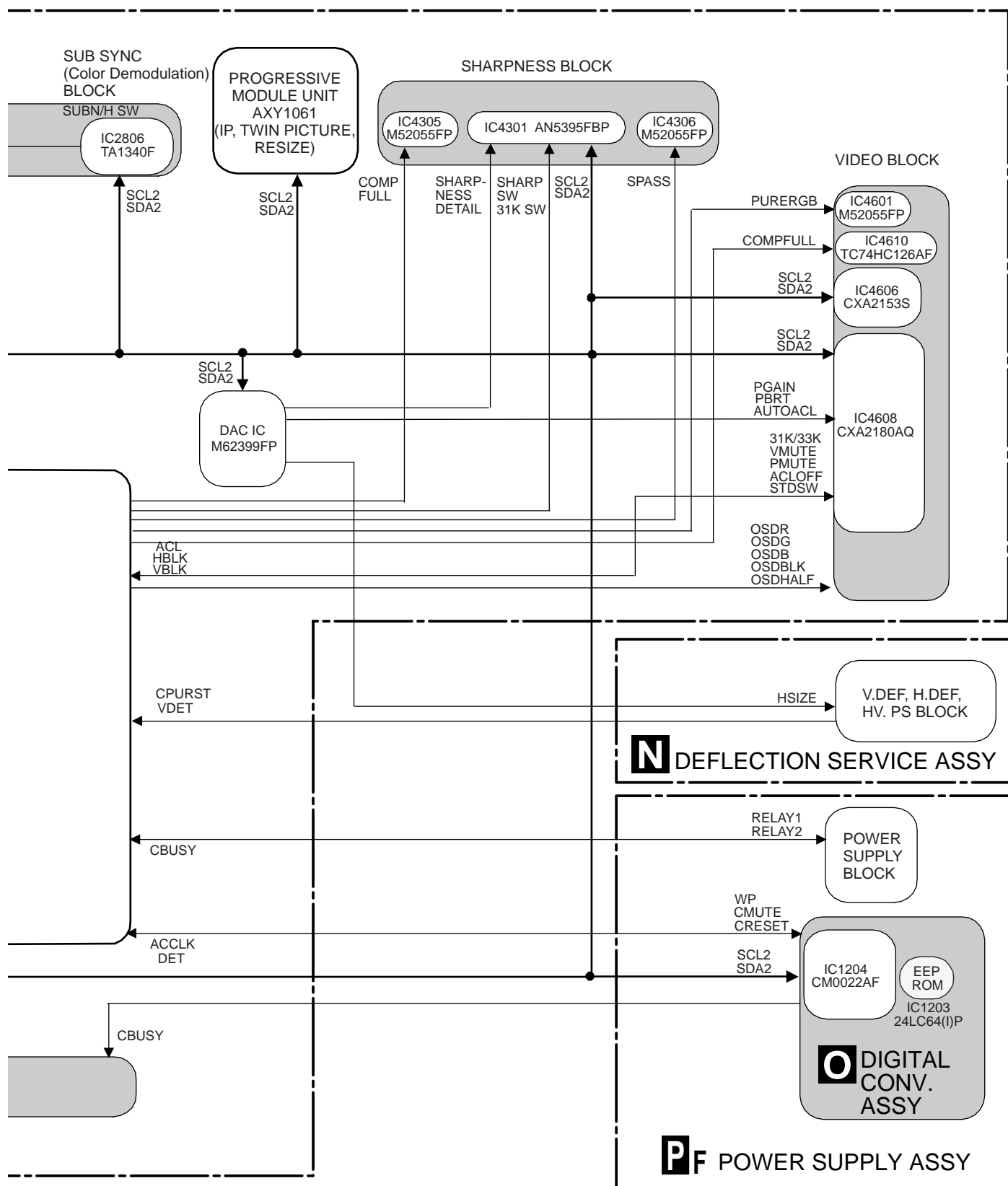
4.1.1 VIDEO BLOCK



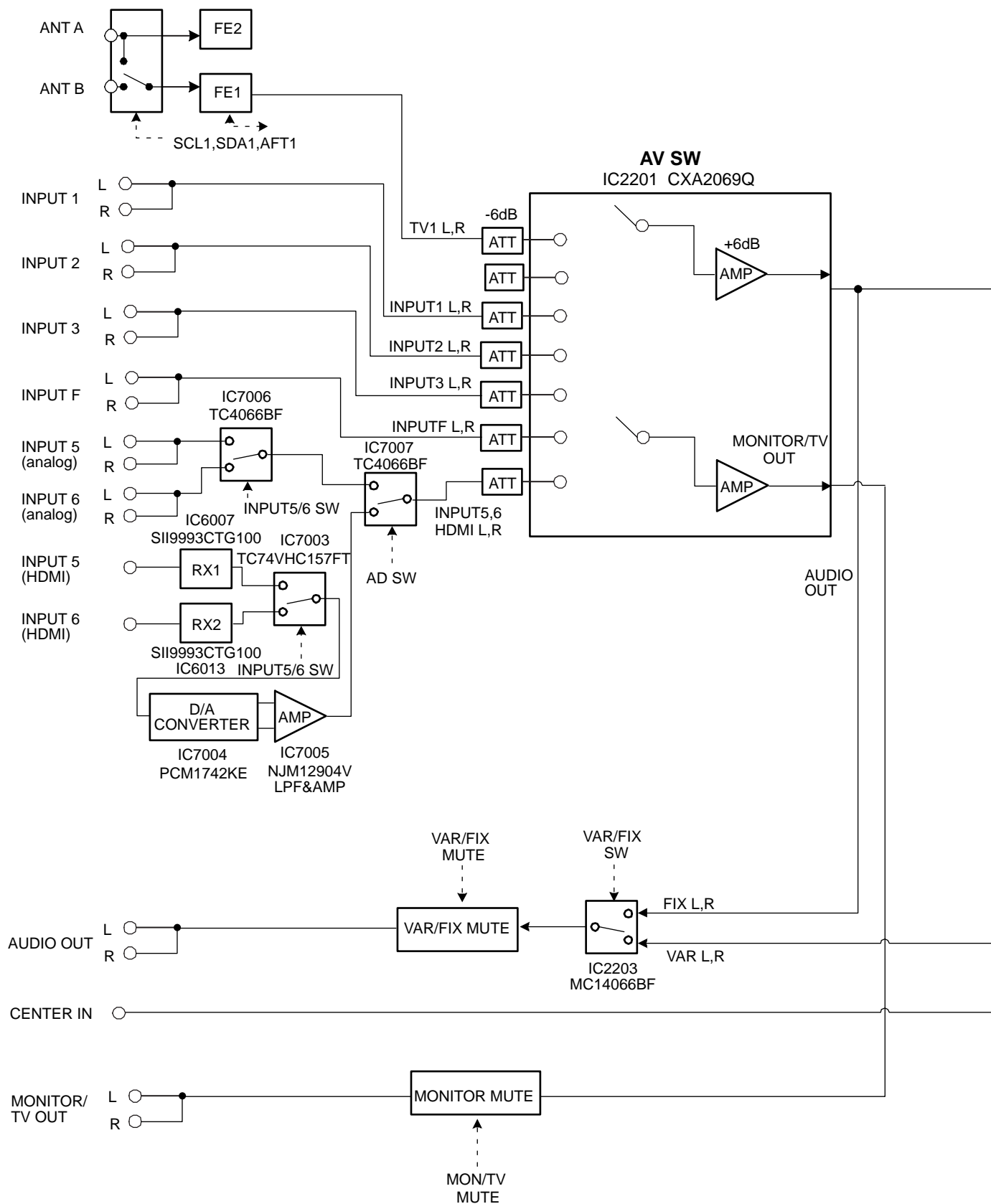
4.1.2 CONTROL BLOCK

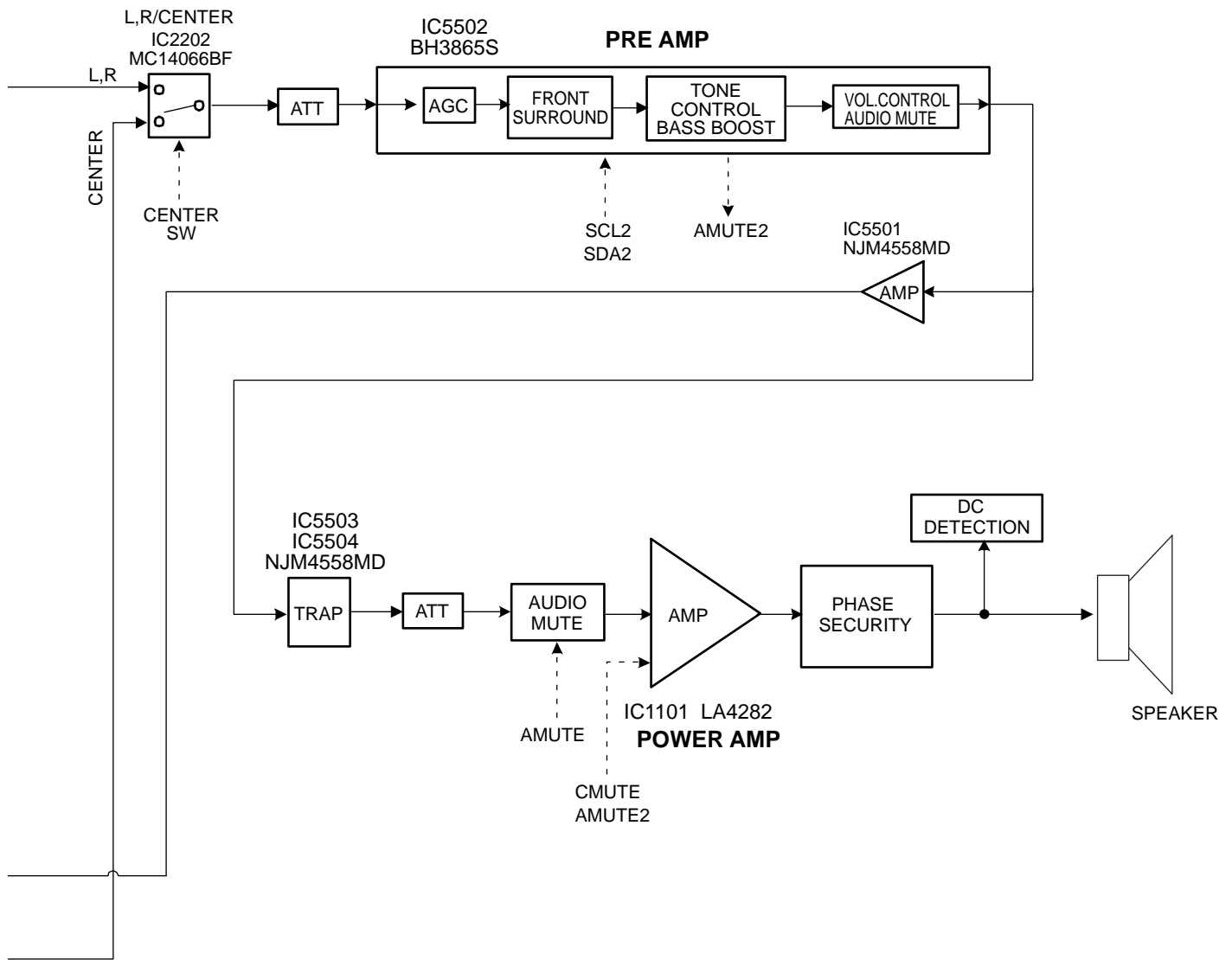
A
B
C
D
E
F





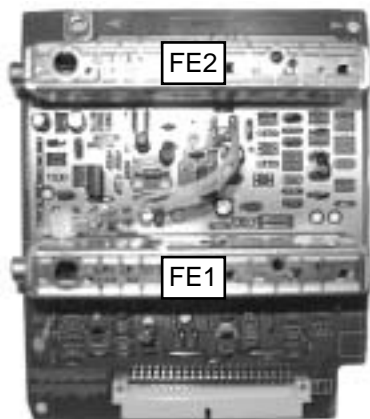
4.1.3 AUDIO BLOCK



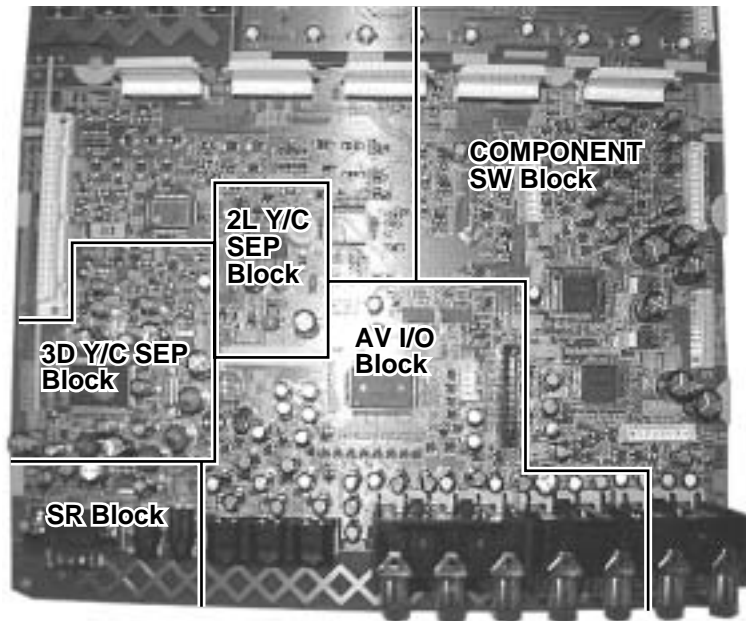


4.1.4 TUNER, SIGNAL and HDMI SERVICE ASSYS

A TUNER ASSY



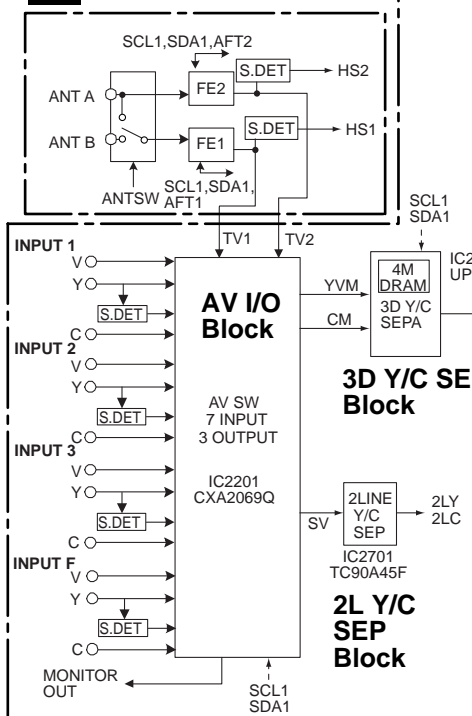
B SIGNAL ASSY



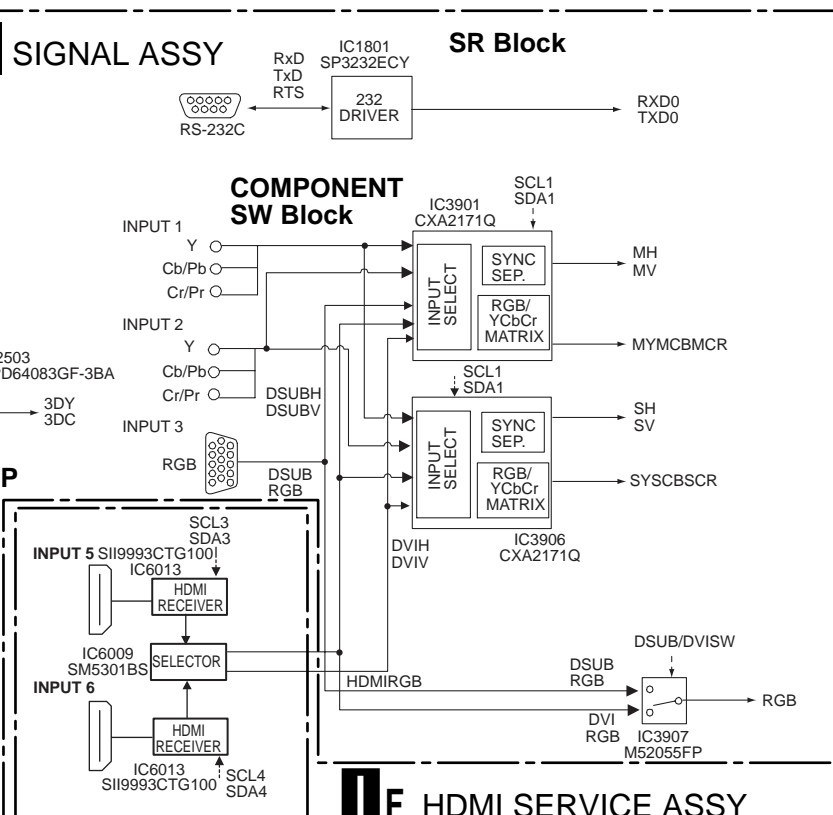
F HDMI SERVICE ASSY



A TUNER ASSY



B SIGNAL ASSY



F HDMI SERVICE ASSY

4.1.5 VIDEO UCOM and R,G,B CRT DRIVE ASSYS

JF VIDEO UCOM SERVICE ASSY



Refer to "4.1.3 Audio Block".

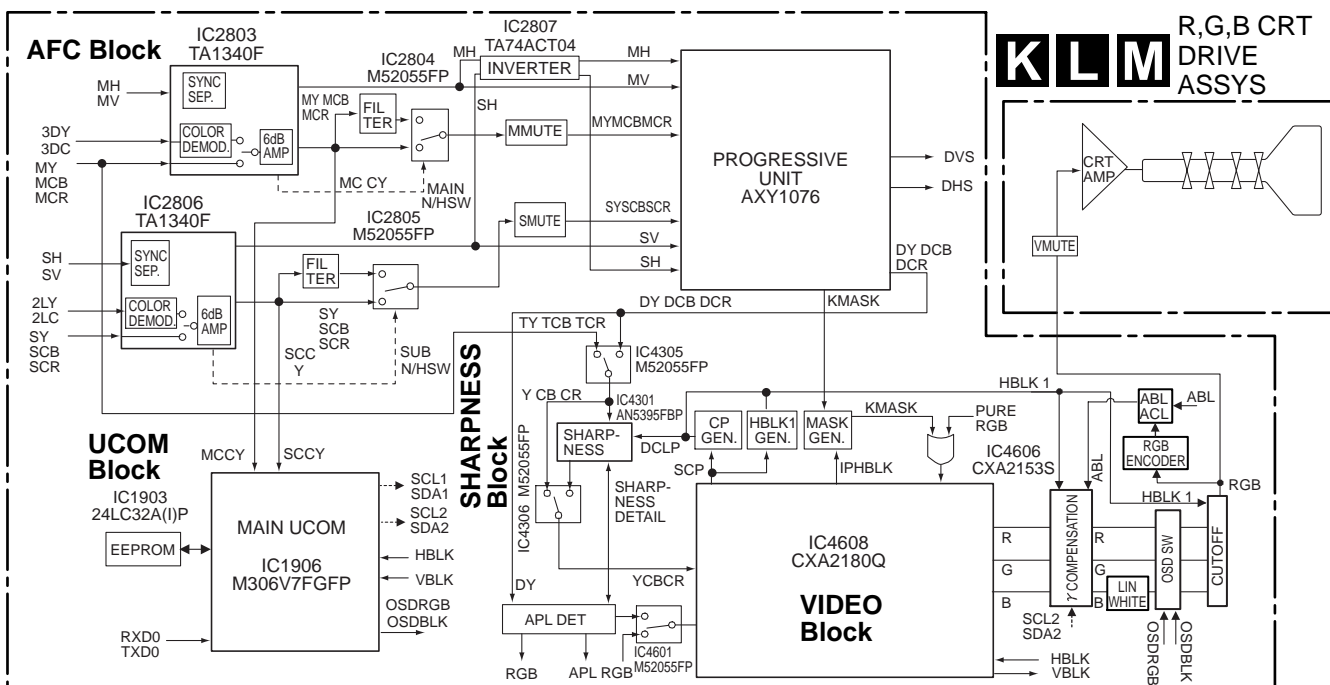
K R CRT DRIVE ASSY



M B CRT DRIVE ASSY

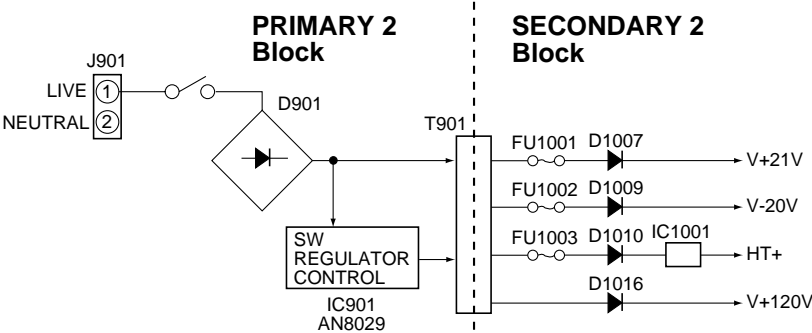
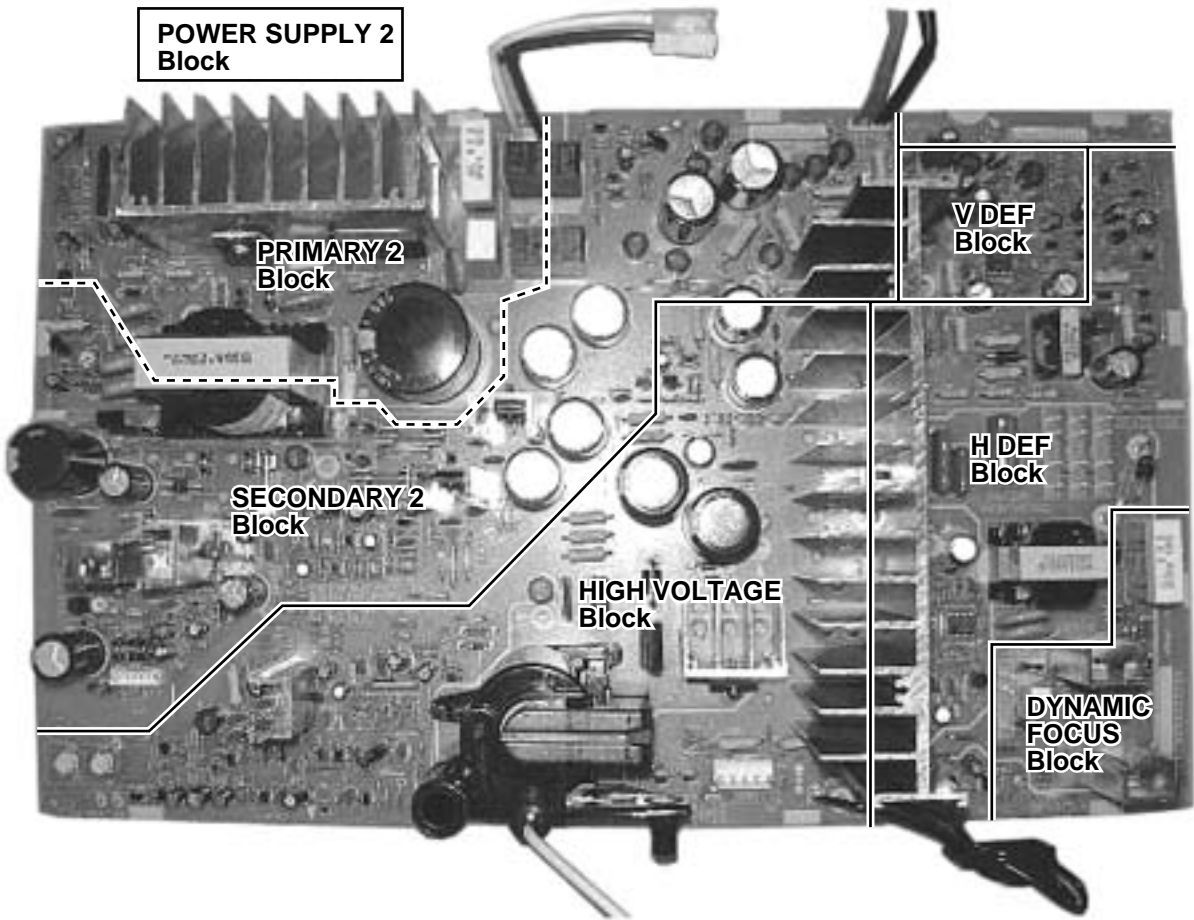
L G CRT DRIVE ASSY

JF VIDEO UCOM SERVICE ASSY

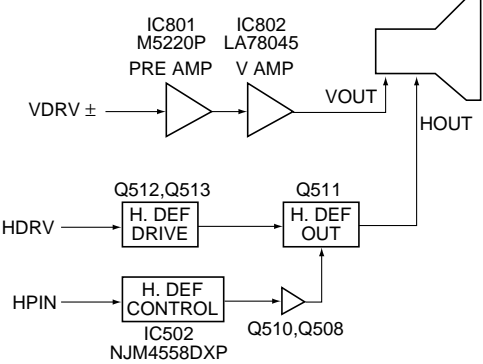


4.1.6 DEFLECTION SERVICE ASSY

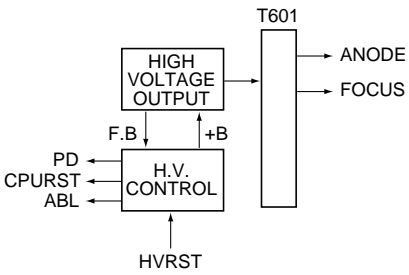
N DEFLECTION SERVICE ASSY



V DEF Block

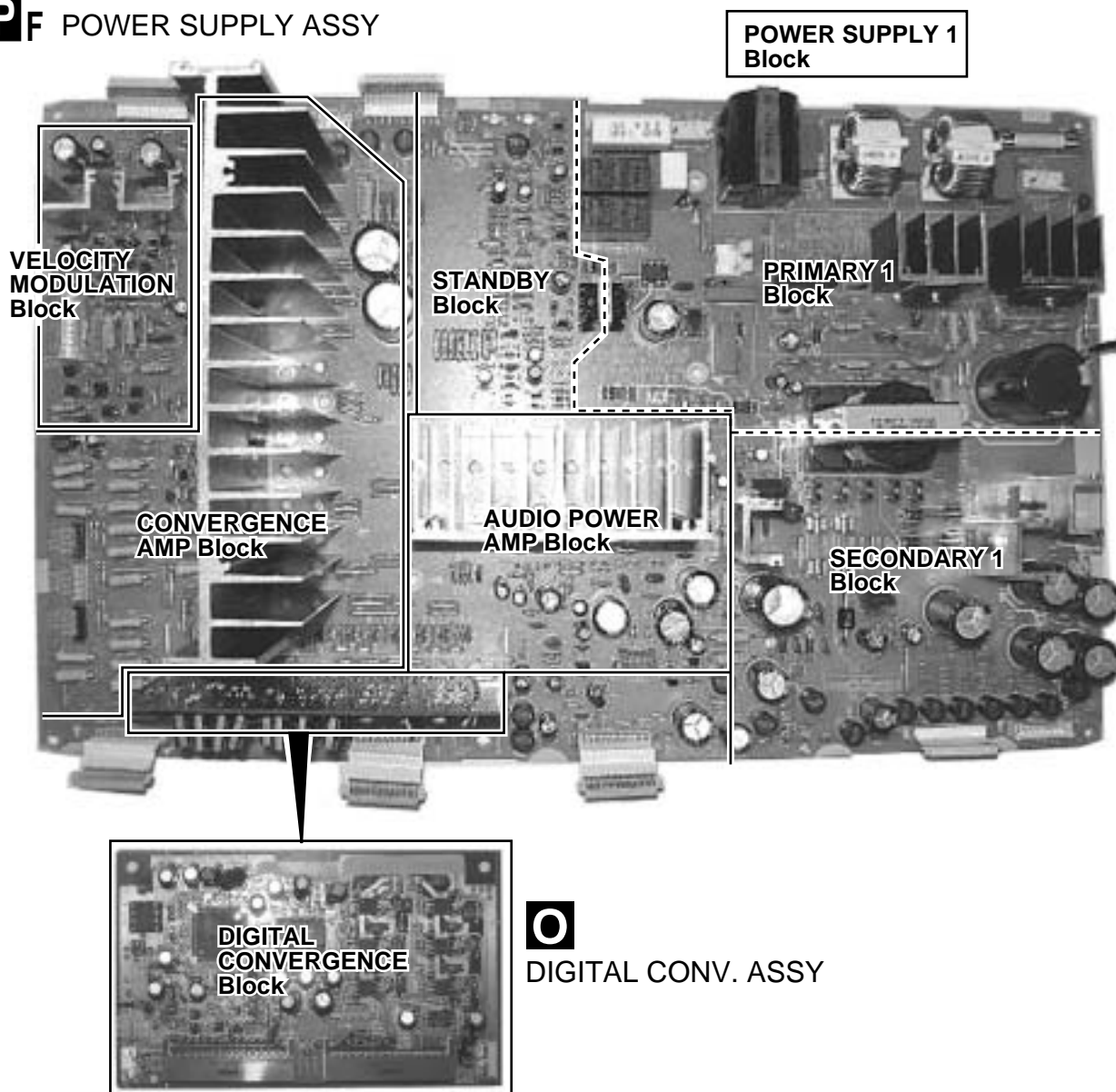


HIGH VOLTAGE Block

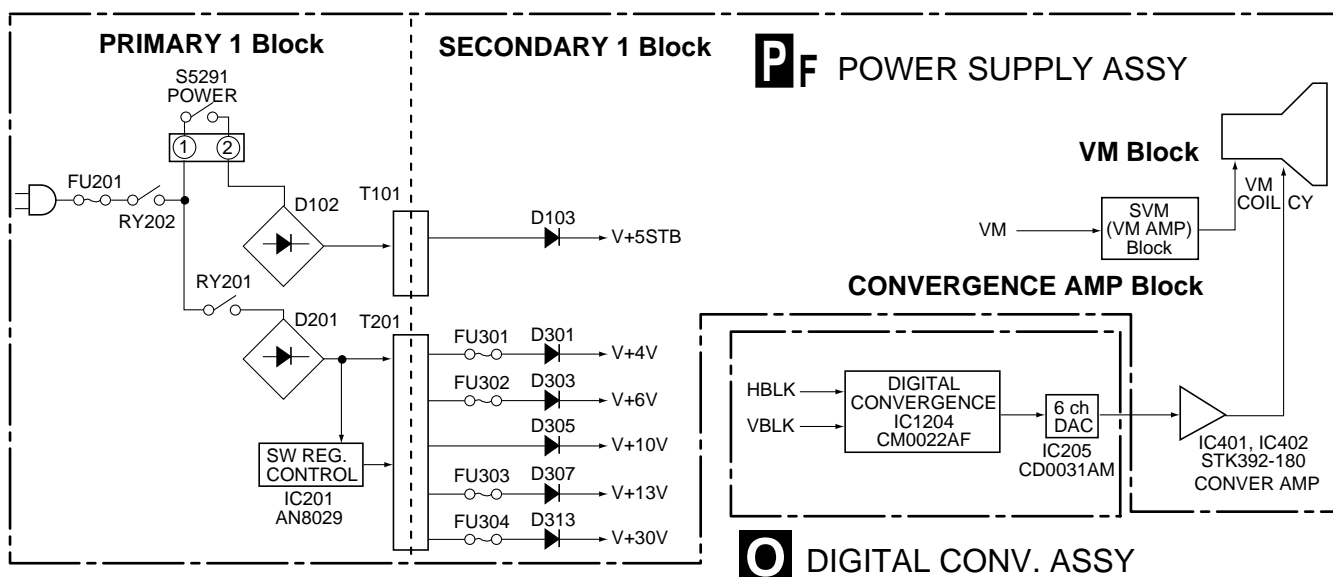


4.1.7 DIGITAL CONV. and POWER SUPPLY ASSYS

PF POWER SUPPLY ASSY



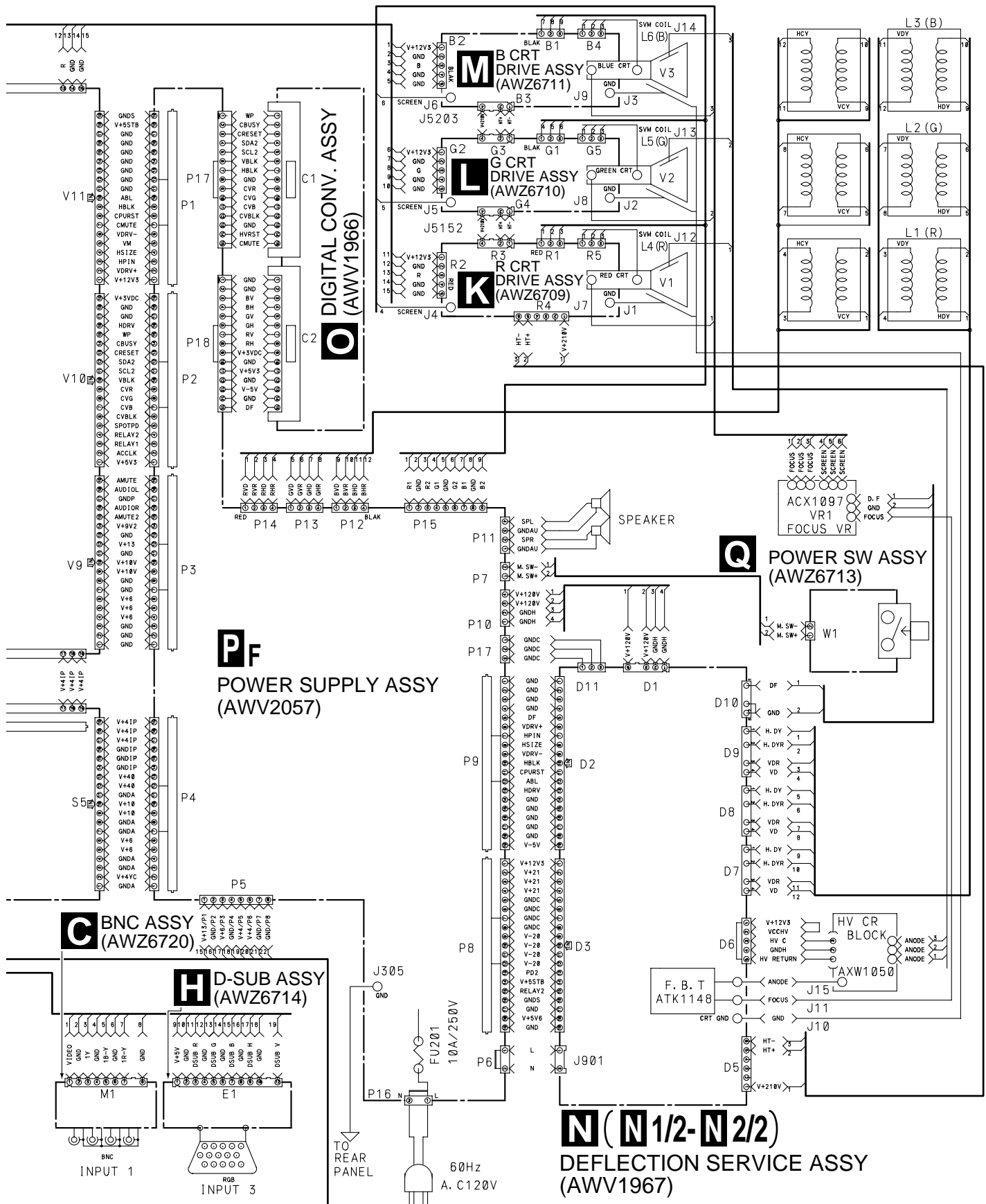
O DIGITAL CONV. ASSY



4



Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



4.3 CONNECTOR PIN NAMES AND VOLTAGES

A **Condition:** INPUT 1, Composite signal (color-bar)
Digital multi-meter, AC120V

IF

HDVI SERVICE
ASSY

B

SIGNAL ASSY

H2 (CN6004)		DC Voltage (V)	S2 (CN2205) S12 (CN3904)	
Pin	Name		Pin	Name
1	DVIR	0	S2-1	DVIR
2	GND	0	S2-2	GND
3	DVIG	0	S2-3	DVIG
4	GND	0	S2-4	GND
5	DVIB	0	S2-5	DVIB
6	GND	0	S2-6	GND
7	DVIH	0	S2-7	DVIH
8	GND	0	S2-8	GND
9	DVIV	0.0	S2-9	DVIV
10	PDET1	5.0	S2-10	PDET1
11	DAL	5.4	S12-1	DVIL
12	GND	0	S12-2	GND
13	DAR	5.4	S12-3	DVIR
14	GND	0	S12-4	GND

JF

VIDEO UCOM
SERVICE ASSY

IF

HDVI SERVICE
ASSY

V2 (CN1901)		DC Voltage (V)	H4 (CN6005) H1 (CN6004)	
Pin	Name		Pin	Name
1	SDA4	3.0	H4-1	SDA4
2	SCL4	3.0	H4-2	SCL4
3	HP2	3.3	H4-3	HP2
4	HP1	0.0	H1-10	HP1
5	V+3STB	3.3	H1-9	V+3STB
6	MDET	3.3	H1-8	MDET
7	MD	1.0	H1-7	MD
8	MC	1.0	H1-6	MC
9	DVIRST	0.0	H1-5	DVIRST
10	ML	3.0	H1-4	ML
11	PTT	2.9	H1-3	PTT
12	SCL3	4.9	H1-2	SCL3
13	SDA3	4.8	H1-1	SDA3

PF

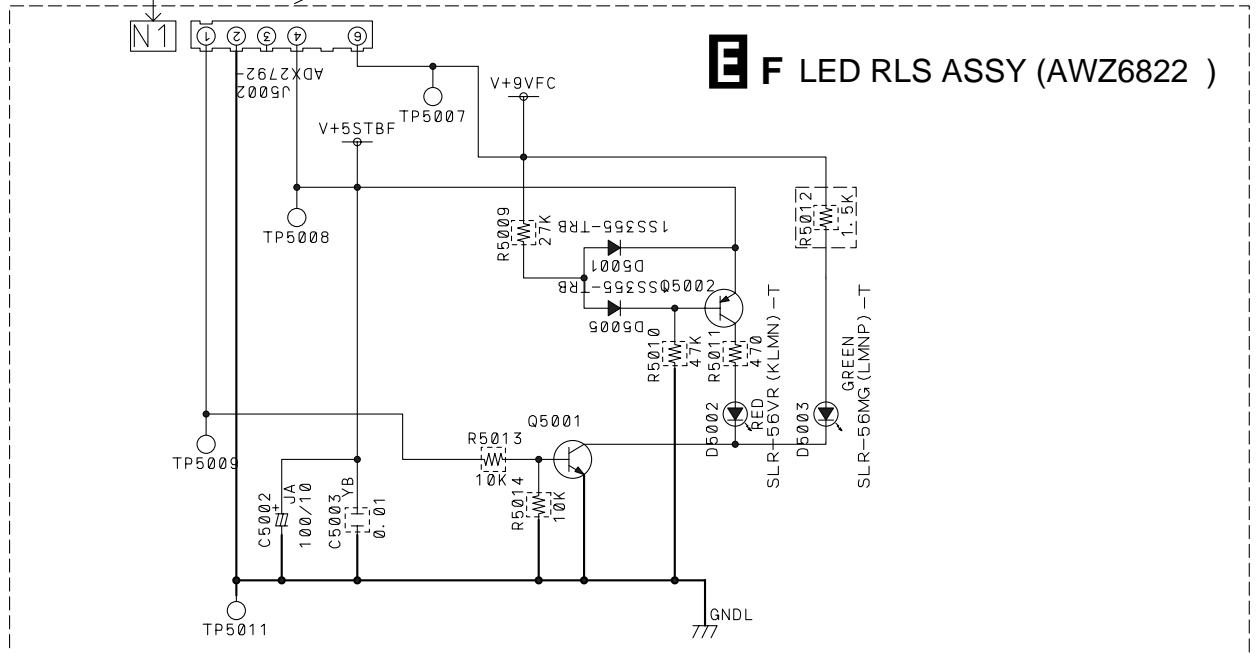
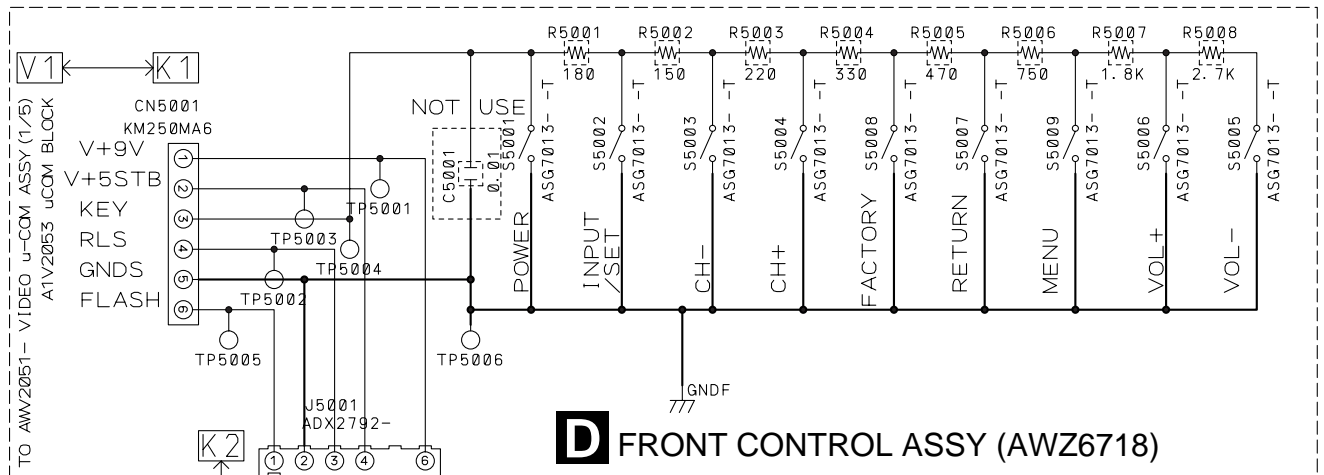
POWER SUPPLY
ASSY

IF

HDVI SERVICE
ASSY

P5 (CN301)		DC Voltage (V)	H3 (CN6001)	
Pin	Name		Pin	Name
1	V+13	14.5	1	V+13
2	GND	0	2	GND
3	V+6	6.5	3	V+6
4	GND	0	4	GND
5	V+4	4.9	5	V+4
6	V+4	4.9	6	V+4
7	GND	0	7	GND
8	GND	0	8	GND

4.4 LED RLS ASSY



NOTE

1. RESISTORS

RS1/16S***J-T

2. CAPASITORS

CKSRYB***K50-T

CKSRYF***Z**-T

CCSRCH***J50-T

3. Transister

2SC2712 (YGR) -TLB

2SA1162 (YGR) -TLB

4. DIODES

1SS355-TRB

D E F

D E F

4.5 HDMI SERVICE ASSY (1/2)

A

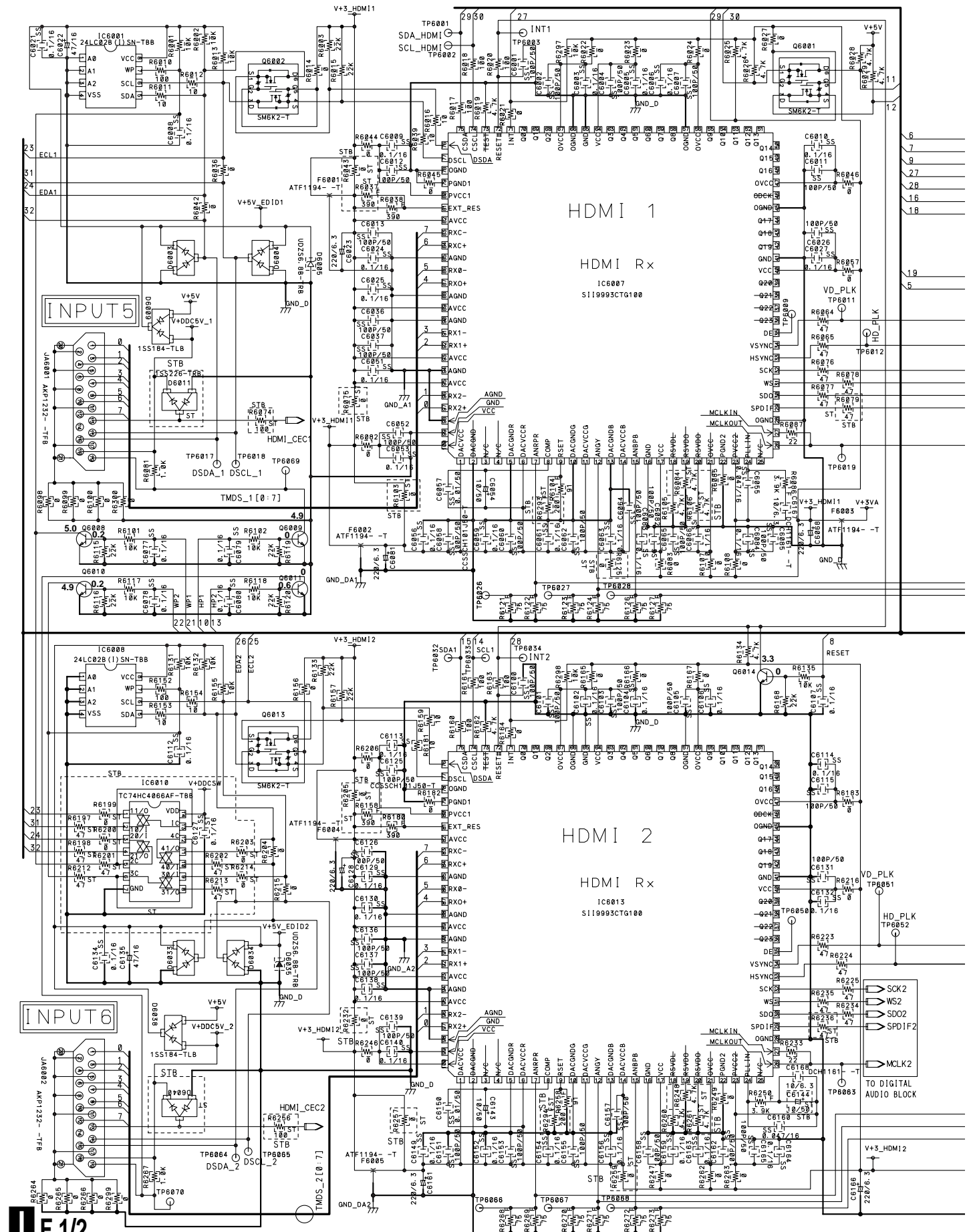
B

C

D

E

F



A

E



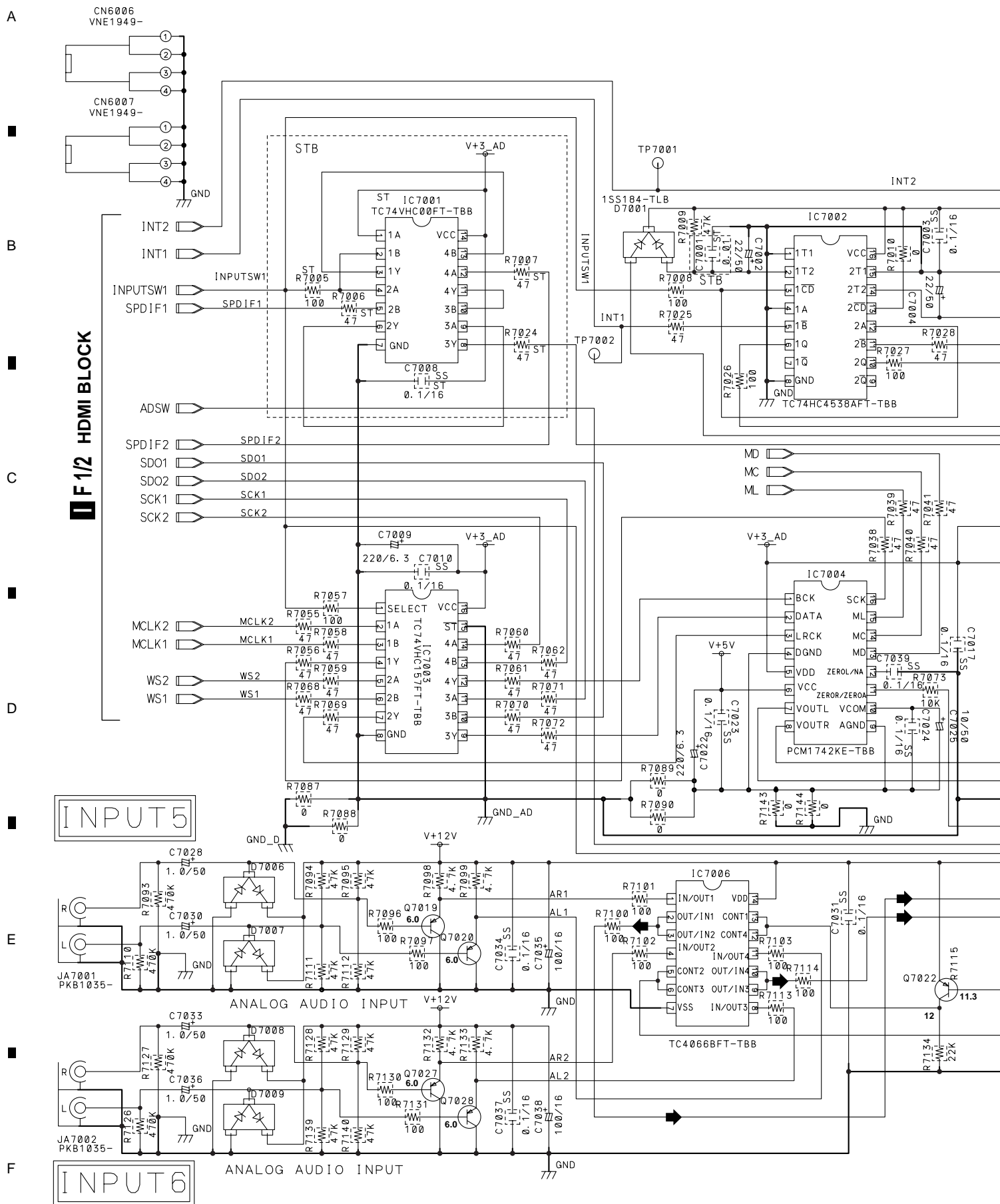
D

E

F

43

4.6 HDMI SERVICE ASSY (2/2)



A



C

D

E

F

WAVEFORMS and VOLTAGES

Note : The encircled numbers denote measuring point in the schematic diagram.

F 1/2 - 2/2 HDMI SERVICE ASSY

• Condition:

Analog Audio input : INPUT5 and 6 are nothing

HDMI input : INPUT5 Video \Rightarrow 720 x 480P RGB format • 100/0/100/0 color-bar • Digital Level =16-235
(to be based on CEA861-B)

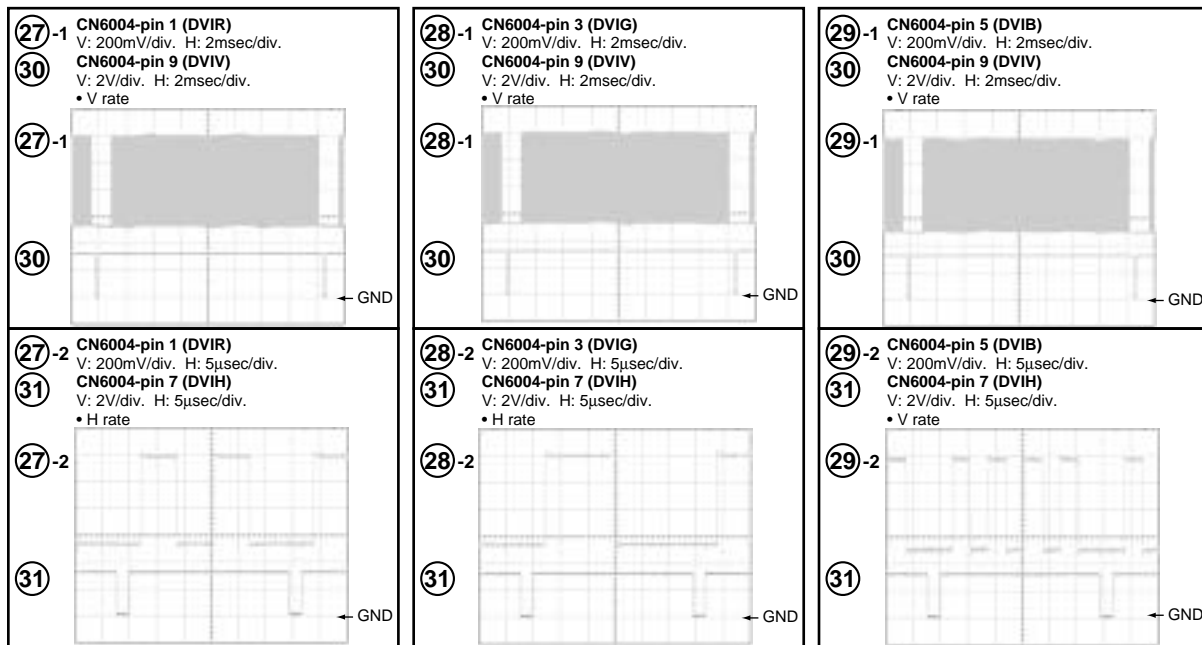
: INPUT5 Audio \Rightarrow 1KHz sinwave • Digital Level = 0B (full scale)

: INPUT6 Video&Audio \Rightarrow nothing

Setting menu : PURE DIGITAL \Rightarrow ON • PICTURE SELECT \Rightarrow COLOR3 • PICTURE SET UP \Rightarrow TYPE1 •

SOUND SELECT \Rightarrow Digital • (POWER MANAGEMENT \Rightarrow OFF)

Digital multi-meter , AC120V



F 1/2 (HDMI BLOCK)

IC6001 (24LC02B)

Pin	Voltage (V)
1	0
2	0
3	0
4	0
5	5.0
6	5.0
7	5.0
8	5.0

IC6008 (24LC02B)

Pin	Voltage (V)
1	0
2	0
3	0
4	0
5	4.9
6	4.9
7	4.9
8	4.9

IC6006 (TC74HC126)

Pin	Voltage (V)
1	0
2	3.3
3	3.3
4	0
5	0
6	3.0
7	0
8	3.0
9	3.0
10	3.3
11	3.3
12	3.3
13	3.3
14	3.3

IC6009 (SM5301BS)

Pin	Voltage (V)	Pin	Voltage (V)
1	2.6	16	0
2	5	17	1.6
3	0.2	18	5.0
4	NC	19	0
5	2.6	20	0.5
6	5.0	21	0.58
7	0.1	22	0
8	NC	23	0
9	0.1	24	5.0
10	0	25	2.5
11	1.6	26	5.0
12	5.0	27	0.1
13	0	28	NC
14	1.6	29	0
15	5.0	30	0

Q6001 (SM6K2)

Pin	Voltage (V)
1	-
2	3.3
3	-
4	-
5	3.3
6	-

Q6002 (SM6K2)

Pin	Voltage (V)
1	3.3
2	3.3
3	5.0
4	3.3
5	3.3
6	5.0

Q6013 (SM6K2)

Pin	Voltage (V)
1	3.3
2	3.3
3	4.9
4	3.3
5	3.3
6	4.9

F 1/2 (HDMI BLOCK)

IC6011 (CXA1875AM)

Pin	Voltage (V)
1	0
2	0
3	3.3
4	0.4
5	1.2
6	0.4
7	0.4
8	0
9	2.4
10	2.4
11	5.0
12	0
13	0
14	4.8
15	4.8
16	5.0

IC6012 (TC74HC4066AF)

Pin	Voltage (V)
1	-
2	5.0
3	5.0
4	-
5	0.4
6	0.4
7	0
8	-
9	4.9
10	4.9
11	-
12	0.4
13	0.4
14	5.0

F 2/2 (DIGITAL AUDIO BLOCK)

IC7002 (TC74HC4538AFT)

Pin	Voltage (V)
1	0
2	3.3
3	3.3
4	0
5	2.9
6	0.0
7	3.3
8	0
9	3.3
10	0
11	2.9
12	3.3
13	3.3
14	3.3
15	0
16	3.3

IC7003 (TC74VHC157FT)

Pin	Voltage (V)
1	3.3
2	0
3	1.2
4	1.1
5	0
6	1.6
7	1.7
8	0
9	0.8
10	0.8
11	0
12	1.6
13	1.6
14	0
15	0
16	3.3

IC7004 (PCM1742KE)

Pin	Voltage (V)
1	1.6
2	0.8
3	1.7
4	0
5	3.3
6	5.0
7	2.5
8	2.5
9	0
10	2.5
11	0
12	0
13	0
14	0
15	3
16	1.4

IC7005 (NJM12904V)

Pin	Voltage (V)
1	6.2
2	6.5
3	6.5
4	0
5	6.5
6	6.5
7	6.2
8	12

IC7006 (TC4066BFT)

Pin	Voltage (V)
1	6.7
2	6.7
3	6.7
4	6.7
5	0
6	0
7	0
8	6.7
9	6.7
10	6.7
11	6.7
12	0
13	0
14	12

IC7007 (TC4066BFT)

Pin	Voltage (V)
1	6.7
2	6.1
3	6.1
4	6.1
5	11.9
6	11.9
7	0
8	6.1
9	6.2
10	6.2
11	6.7
12	0
13	0
14	12

F 1/2 (HDMI BLOCK)

• Condition

INPUT1: Composite signal (color bar)
Digital multi-meter, AC120V

H1 (CN6004)

Pin	Name	Voltage (V)
1	SDA3	4.8
2	SCL3	4.8
3	PTT	2.9
4	ML	3
5	DVIRST	0.1
6	MC	0
7	MD	0
8	MDET	3.3
9	V+3V	3.3
10	HP1	3.2

H2 (CN6003)

Pin	Name	Voltage (V)
1	DVIR	0
2	GND	0
3	DVIG	0
4	GND	0
5	DVIB	0
6	GND	0
7	DVIH	0
8	GND	0
9	DVIV	0.1
10	PDET	5
11	DAL	5.5
12	GND	0
13	DAR	5.5
14	GND	0

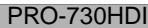
H3 (CN6001)

Pin	Name	Voltage (V)
1	V+13	14.7
2	GND	0
3	V+6	6.5
4	GND	0
5	V+4	4.8
6	V+4	4.8
7	GND	0
8	GND	0

H4 (CN6005)

Pin	Name	Voltage (V)
1	SDA4	3.3
2	SCL4	3.3
3	HP2	3.2

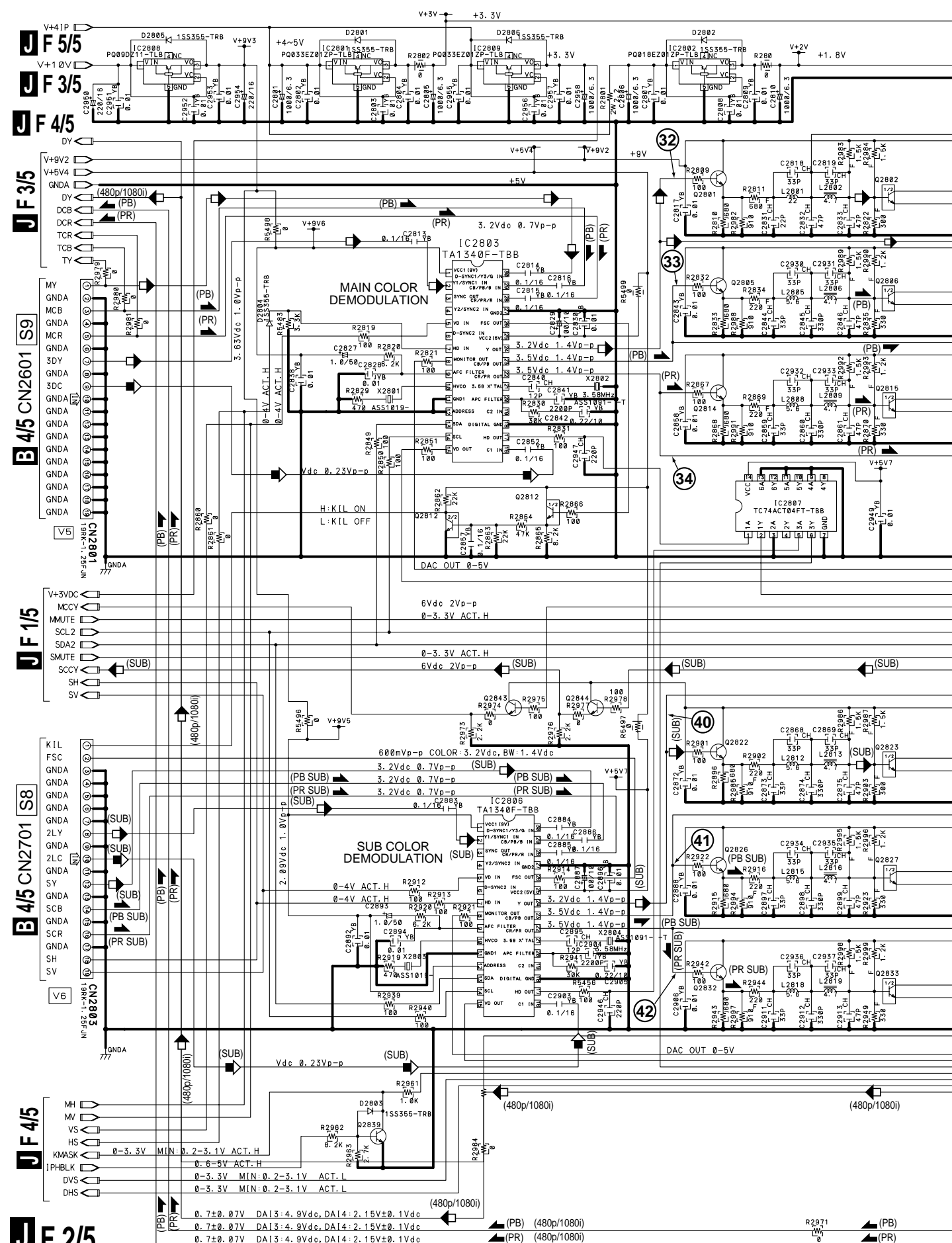
48



A



4.8 VIDEO UCOM SERVICE ASSY (2/5)



A



C

D

E

E

WAVEFORMS and VOLTAGES

Note : The encircled numbers denote measuring point in the schematic diagram.

JF 1/5 VIDEO UCOM SERVICE ASSY

JF 2/5 VIDEO UCOM SERVICE ASSY

• Condition: Picture Quality : STANDARD
Range : DC range

IC1906 (M306V7FGFP)

No	Voltage (V)	No	Voltage (V)
1	0	51	0
2	0	52	3.3
3	0/5	53	3.3
4	0/5	54	0
5	0	55	0/3.3
6	0	56	0
7	0	57	0
8	0	58	3.3
9	0	59	3.3
10	0	60	3.3
11	3.3	61	3.3
12	3.3	62	0/3.0
13	0/3.3	63	3.3
14	0	64	0/3.0
15	1.3/1.7	65	3.0
16	3.3	66	0
17	0	67	0
18	-	68	0
19	3.2	69	0/3.3
20	0	70	0/3.3
21	0	71	3.3
22	0	72	3.3
23	0/3.3	73	0
24	3.3	74	3.3
25	0/3.3	75	0/3.3
26	0/3.3	76	3.0
27	3.3	77	0
28	0/5	78	0
29	0/5	79	0
30	0/5	80	0
31	0/5	81	3.3
32	0	82	3.3
33	0	83	0
34	0	84	0
35	3.3	85	3.3
36	3.3	86	0/3.3
37	3.3	87	0
38	0	88	0
39	0	89	3.3
40	3.3	90	1.6
41	0	91	1.6
42	3.3	92	0
43	3.3	93	2.5
44	0	94	0
45	3.3	95	0
46	3.3	96	0
47	0	97	0
48	3.3	98	1.0
49	0/3.3	99	5.0
50	0	100	1.0

IC1905 (M62399FP)

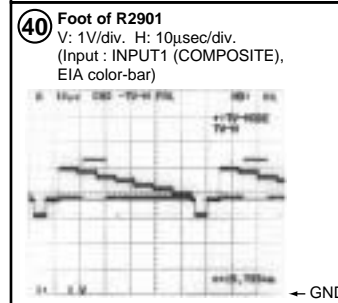
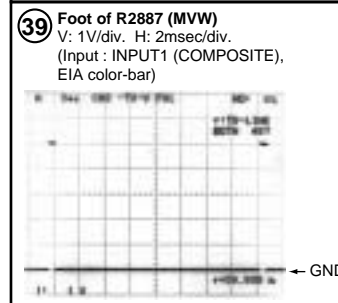
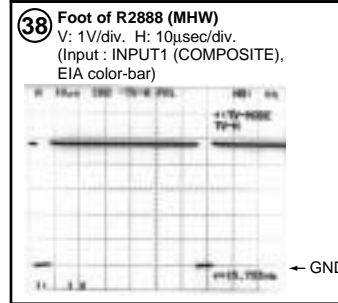
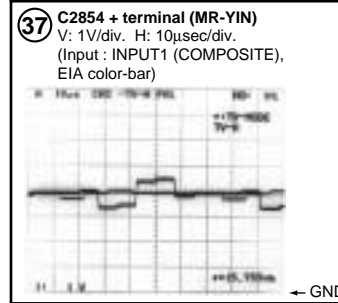
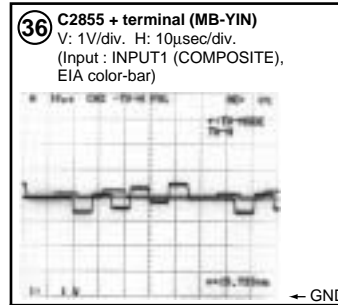
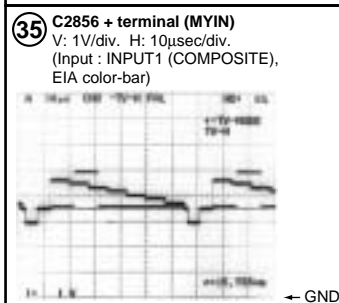
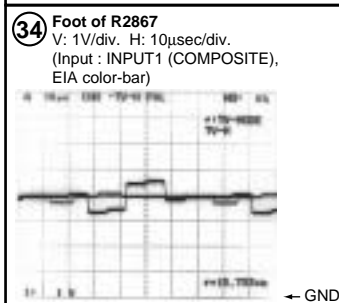
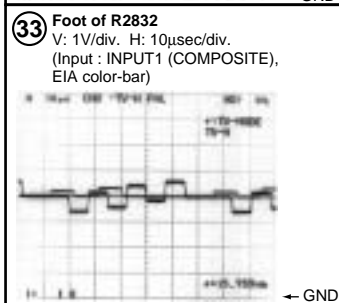
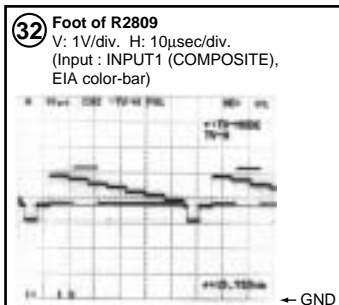
No	Voltage (V)
1	5.0
2	0/5
3	0/5
4	3.0
5	5.4
6	-
7	-
8	0
9	3.8
10	0
11	3.8
12	4.2
13	2.3
14	5.6
15	4.6
16	9.0
17	5.0
18	0
19	5.0
20	0

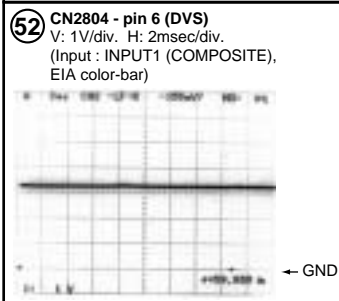
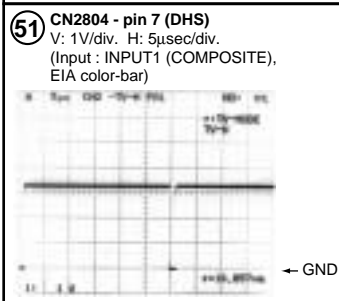
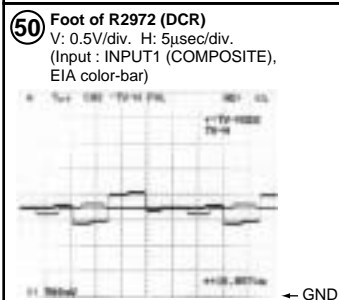
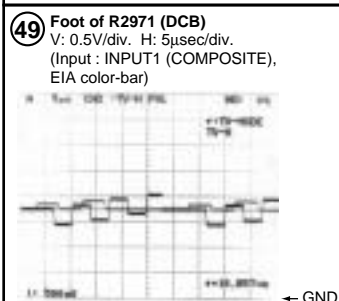
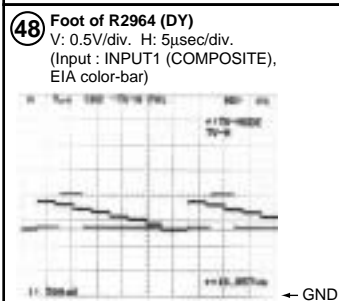
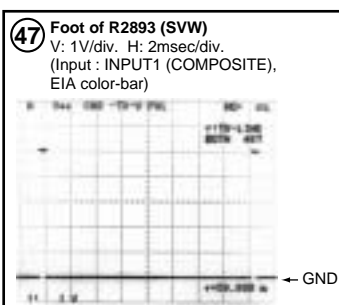
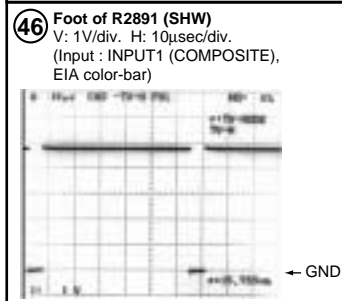
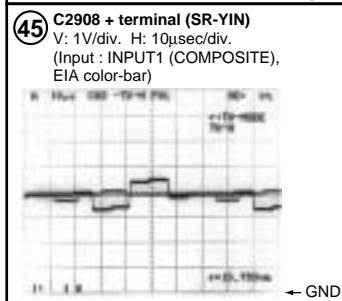
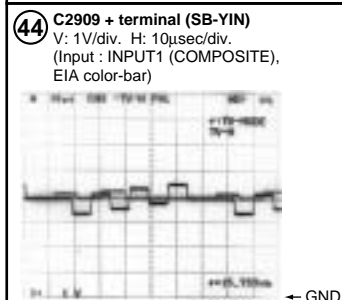
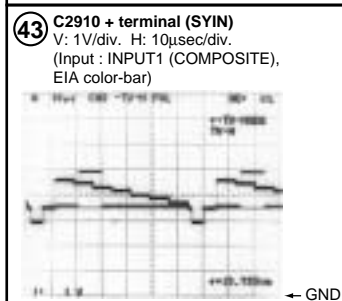
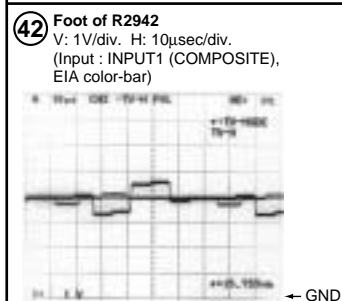
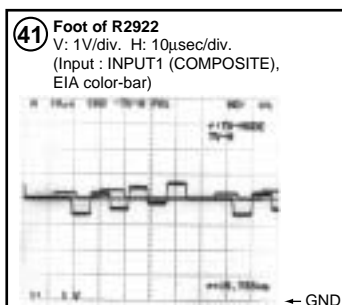
IC1904 (TC74VHCT541AFT)

No	Voltage (V)
1	0
2	0
3	0
4	0
5	0
6	3.3
7	0
8	0
9	3.3
10	0
11	5.0
12	0
13	0
14	5.0
15	0
16	0
17	0
18	0
19	0
20	5.0

IC1907 (TC74VHCT541AFT)

No	Voltage (V)	No	Voltage (V)	No	Voltage (V)
1	0	9	0	17	0
2	0	10	0	18	0
3	-	11	0	19	0
4	0	12	0	20	5.0
5	0	13	5.0		
6	3.3	14	5.0		
7	3.3	15	0		
8	0	16	0		





• Input signal

Input : INPUT 1 (COMPOSITE)

Video Signal : EIA color-bar

Picture Quality : STANDARD

IC2803 (TA1340F)

No	Voltage (V)	No	Voltage (V)
1	9.0	16	2.4
2	2.4	17	0.6
3	-	18	0
4	2.4	19	2.4
5	0	20	2.2
6	2.2	21	3.8
7	0.4	22	3.9
8	5.0	23	4.0
9	6.4	24	4.1
10	5.2	25	5.0
11	0	26	2.9
12	0	27	0
13	0 to 5	28	2.2
14	0 to 5	29	2.2
15	0.2	30	1.9

IC2804 (M52055FP)

No	Voltage (V)
1	4.7
2	5.0
3	3.2
4	0
5	3.2
6	3.2
7	5.0
8	4.7
9	4.7
10	0
11	4.7
12	5.0
13	9.0
14	4.7
15	0
16	4.7

IC2806 (TA1340F)

No	Voltage (V)	No	Voltage (V)
1	9.0	16	2.4
2	2.4	17	0.6
3	-	18	0
4	2.4	19	2.4
5	0.0	20	2.2
6	2.3	21	3.8
7	0.0	22	3.9
8	5.0	23	4.0
9	6.4	24	4.1
10	5.2	25	5.0
11	0	26	2.9
12	9.0	27	0
13	0 to 5	28	2.2
14	0 to 5	29	2.2
15	0.2	30	1.9

IC2805 (M52055FP)

No	Voltage (V)
1	4.7
2	5.0
3	3.2
4	0
5	3.2
6	3.2
7	5.0
8	4.7
9	4.7
10	0
11	4.7
12	5.0
13	9.0
14	4.7
15	0
16	4.7

IC2807 (TC74ACT04FT)

No	Voltage (V)
1	0 to 5
2	0 to 5
3	0
4	4.7
5	0 to 5
6	0 to 5
7	0
8	4.7
9	0
10	4.7
11	0
12	4.7
13	0
14	4.7





4

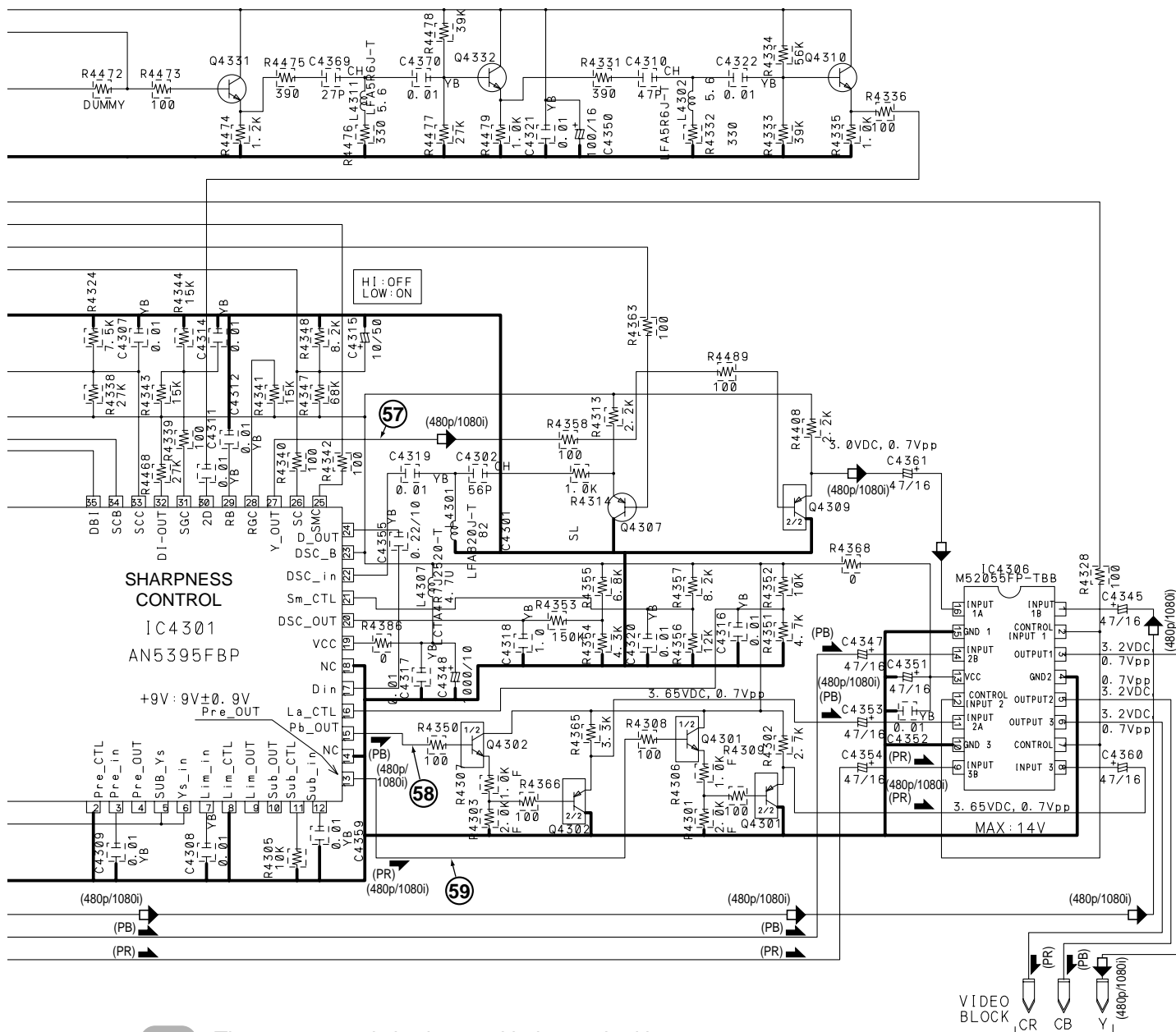
F





M52055				AN5395			
	INPUT	OUTPUT	GAIN		INPUT	OUTPUT	GAIN
MIN	4.1V	3.05V	-0.6	Y	4.5V	2.4V	1.81
				CbCr	4.5V	3.8V	1.81
TYP	4.6V	3.2V	-0.1	Y	5.63V	3.0V	2.92
				CbCr	5.63V	4.75V	2.92
MAX	5.1V	3.35V	+0.4	Y	6.76V	3.6V	3.91
				CbCr	6.76V	5.7V	3.91

(480p/1080i)  ➔ Y SIGNAL ROUTE (1080i or 480p)
 ➔ AUDIO SIGNAL ROUTE
(PB)  ➔ PB SIGNAL ROUTE
(PR)  ➔ PR SIGNAL ROUTE



: The power supply is shown with the marked box.

J F 4/5 **J** F 3/5

WAVEFORMS and VOLTAGES

Note : The encircled numbers denote measuring point in the schematic diagram.

JF3/5 VIDEO UCOM SERVICE ASSY

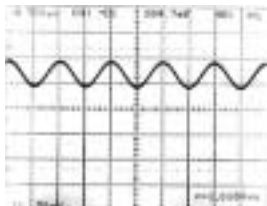
• Input signal

Input : INPUT 1 (COMPOSITE)

Video Signal : EIA color-bar

53 CN4301 - pin 18 (AUDIOL)

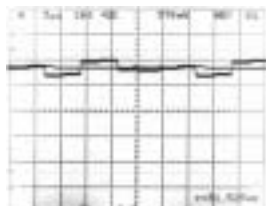
V: 0.5V/div. H: 500μsec/div.



← GND

56 IC4301 - pin 1 (Sharpness Pr in)

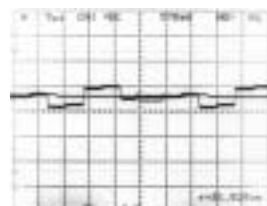
V: 1V/div. H: 5μsec/div.



← GND

59 IC4301 - pin 13 (Sharpness Pr out)

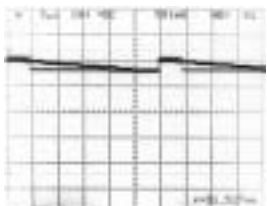
V: 1V/div. H: 5μsec/div.



← GND

54 IC4301 - pin 45 (Sharpness Y in)

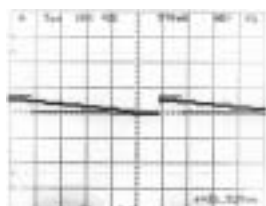
V: 1V/div. H: 5μsec/div.



← GND

57 IC4301 - pin 27 (Sharpness Y out)

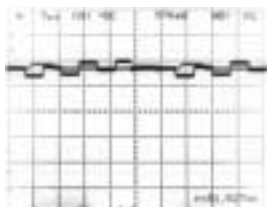
V: 1V/div. H: 5μsec/div.



← GND

55 IC4301 - pin 47 (Sharpness Pb in)

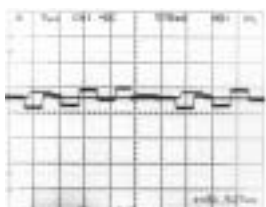
V: 1V/div. H: 5μsec/div.



← GND

58 IC4301 - pin 15 (Sharpness Pb out)

V: 1V/div. H: 5μsec/div.



← GND

IC4301 (AN5395FBP)

No	Voltage (V)
1	5.6
2	0
3	2.6
4	-
5	9.0
6	9.0
7	2.6
8	0
9	-
10	-
11	0
12	2.6
13	4.6
14	0
15	4.6
16	3.1

No	Voltage (V)
17	5.6
18	0
19	8.9
20	4.1
21	5.2
22	2.7
23	9.0
24	4.7
25	0
26	3.6
27	4.1
28	6.3
29	3.6
30	2.5
31	3.8
32	2.7

No	Voltage (V)
33	2.9
34	5.3
35	3.6
36	2.8
37	3.6
38	-
39	0
40	4.0
41	0
42	0
43	0/5
44	0
45	5.6
46	0
47	5.6
48	4.0

IC4305 (M52055FP)

No	Voltage (V)
1	4.7
2	-
3	3.2
4	0
5	3.2
6	3.2
7	-
8	4.7
9	4.7
10	0
11	4.7
12	-
13	9.1
14	4.7
15	0
16	4.7

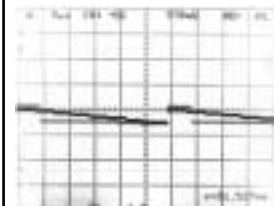
IC4306 (M52055FP)

No	Voltage (V)
1	4.7
2	-
3	3.2
4	0
5	3.2
6	3.2
7	-
8	4.7
9	4.7
10	0
11	4.7
12	-
13	9.1
14	4.7
15	0
16	4.7

JF 4/5 VIDEO UCOM ASSY

60 IC4608 - pin 51 (Jungle input Y)

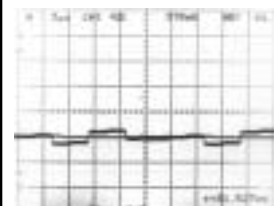
V: 1V/div. H: 5μsec/div.



← GND

62 IC4608 - pin 53 (Jungle input Pr)

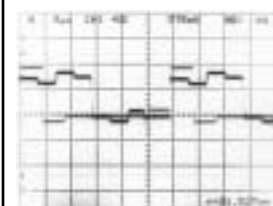
V: 1V/div. H: 5μsec/div.



← GND

64 IC4608 - pin 32 (Jungle output G)

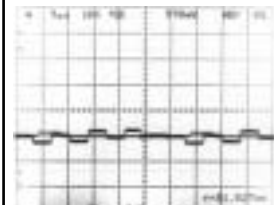
V: 1V/div. H: 5μsec/div.



← GND

61 IC4608 - pin 52 (Jungle input Pb)

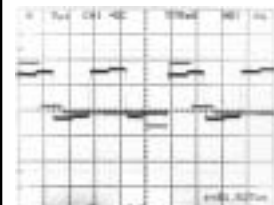
V: 1V/div. H: 5μsec/div.



← GND

63 IC4608 - pin 34 (Jungle output R)

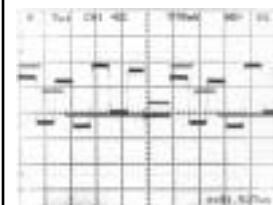
V: 1V/div. H: 5μsec/div.



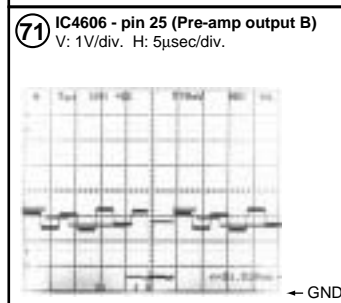
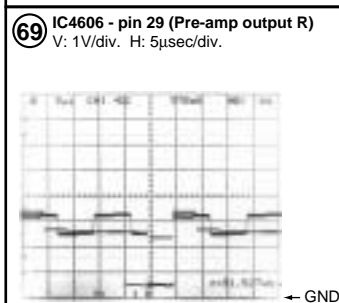
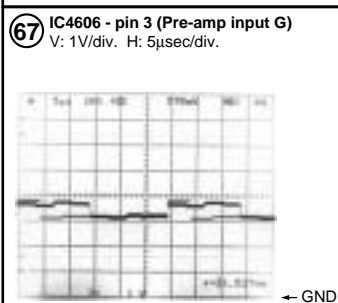
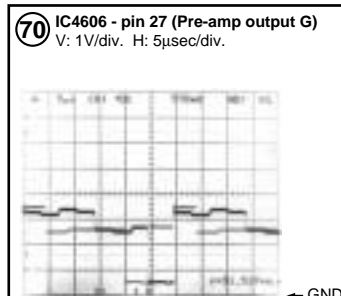
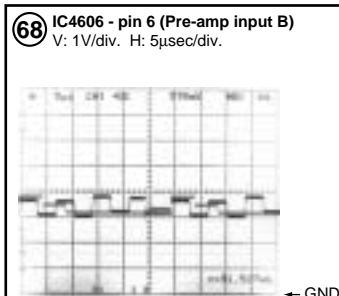
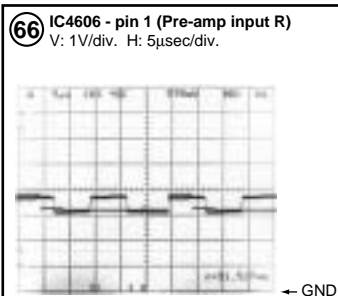
← GND

65 IC4608 - pin 30 (Jungle output B)

V: 1V/div. H: 5μsec/div.



← GND



IC4608 (CXA2180Q)

No	Voltage (V)	No	Voltage (V)
1	3.4	33	5.0
2	4.9	34	4.4
3	2.9	35	0
4	4.0	36	0
5	-	37	3.3
6	0	38	3.3
7	0/5	39	3.3
8	5.0	40	0
9	1.3	41	3.3
10	3.0	42	3.3
11	-	43	3.3
12	0	44	0
13	2.9	45	1.1
14	0.6/5.6	46	2.6
15	0	47	2.7
16	1.3/5	48	0
17	0	49	2.4
18	0/5	50	5.0
19	0/5	51	3.6
20	2.0	52	3.0
21	4.9	53	3.0
22	0/5	54	0
23	0/5	55	3.5
24	0	56	3.5
25	5.0	57	3.5
26	4.9	58	0
27	2.8	59	0/5
28	9.0	60	0/5
29	5.0	61	9.0
30	4.4	62	4.4
31	5.0	63	5.7
32	4.4	64	3.5

IC4601 (M52055FP)

No	Voltage (V)
1	4.7
2	-
3	3.2
4	0
5	3.2
6	3.2
7	-
8	4.7
9	4.7
10	0
11	4.7
12	-
13	9.1
14	4.7
15	0
16	4.7

IC4602 (TC74HC4053AF)

No	Voltage (V)
1	0.7
2	0.7
3	0.7
4	0.7
5	0.7
6	0
7	0
8	0
9	0
10	0
11	0
12	0.7
13	0.7
14	0.7
15	0.7
16	5.0

IC4606 (CXA2153S)

No	Voltage (V)	No	Voltage (V)
1	3.3	16	0/5
2	4.9	17	0/5
3	3.3	18	3.1
4	2.9	19	3.5
5	3.3	20	3.5
6	0	21	3.5
7	4.0	22	12.0
8	0	23	9.0
9	0	24	0
10	0	25	2.3
11	0	26	0
12	-	27	2.3
13	0/5	28	0
14	0/5	29	2.3
15	-	30	12.0

IC4603 (TC7W53FU)

No	Voltage (V)
1	1.5
2	0
3	0
4	0
5	0.7/5.7
6	1.2
7	1.6
8	5.0

IC4604 (BA7655AF)

No	Voltage (V)
1	2.8
2	3.2
3	2.2
4	0
5	2.2
6	3.2
7	2.8
8	5.0

IC4609 (AD8057ART)

No	Voltage (V)
1	2.4
2	0
3	2.3
4	2.4
5	12.0

IC4612 (TC7SB66FU)

No	Voltage (V)
1	2.4
2	1.9
3	0
4	0
5	5.0

IC4610 (TC74HC126AF)

No	Voltage (V)
1	5.0
2	0/5
3	0/5
4	0
5	0.9
6	0/5
7	0
8	0/5
9	0
10	0
11	0/5
12	0/5
13	5.0
14	5.0

IC4613 (TC7SB66FU)

No	Voltage (V)
1	2.4
2	1.9
3	0
4	0
5	5.0

IC4614 (TC7SB66FU)

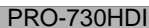
No	Voltage (V)
1	2.4
2	1.9
3	0
4	0
5	5.0

IC4615 (TC7SET08FU)

No	Voltage (V)
1	0
2	0
3	0
4	0
5	5.0

4

F





SIGNAL	ACTIVE	HIGH_LEV	LOW_LEV
V_BLK	HIGH_ACT	+5V	0V
V_BLK	HIGH_ACT	+5V	0V
H_DRV	HIGH_ACT	+5V	0V
DHS	LOW_ACT	+3. 3V	0V
DVS	LOW_ACT	+3. 3V	0V
SEL_H	HIGH_ACT	+5V	0V
SEL_V	HIGH_ACT	+5V	0V
DCLP	HIGH_ACT	+5V	0V
EW			
V_DRV			
KMSK	HIGH_ACT	+5V	0V
SCP	HIGH_ACT	+5V 2. 5V	0V
SPOT	HIGH_ACT	+5V	0V
SPOTPD	HIGH_ACT	+5V	0V


VAR AMP

NOTE

RESISTOR Ω


 RS1/16S***J-T

 RS1/10S***J-T


 RS1/16S****F-T


TRANSISTORS

 2SA1162 (YGR) -TBB


 2SC2712 (YGR) -TBB


CAPACITORS μF

 CEAT

 CEANP

 CKSRYB

 MCQMA

 CFTLA

➡ : AUDIO SIGNAL ROUTE

IC5502 (BH3865S)

No	Voltage (V)	No	Voltage (V)
1	4.5	17	0/5
2	0	18	-
3	4.0	19	-
4	-	20	4.5
5	-	21	-
6	4.5	22	-
7	4.5	23	4.5
8	4.5	24	4.5
9	2.5	25	1.5
10	4.5	26	4.5
11	4.5	27	4.5
12	4.5	28	4.5
13	0.5	29	4.5
14	0.5	30	-
15	0/5	31	9
16	0/5	32	4.5

IC5501 (NJM4558MD)

No	Voltage (V)
1	4.8
2	4.8
3	4.8
4	0
5	4.8
6	4.8
7	4.8
8	9.0

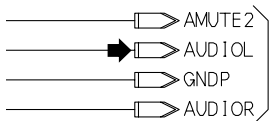
IC5503 (NJM4558MD)

No	Voltage (V)
1	2.9
2	2.9
3	2.9
4	0
5	2.9
6	2.9
7	2.9
8	9

IC5504 (NJM4558MD)

No	Voltage (V)
1	2.9
2	2.9
3	2.9
4	0
5	2.9
6	2.9
7	2.9
8	9.0

SHARPNESS



J F 3/5

PF 1/3 POWER SUPPLY ASSY (AWV2057)

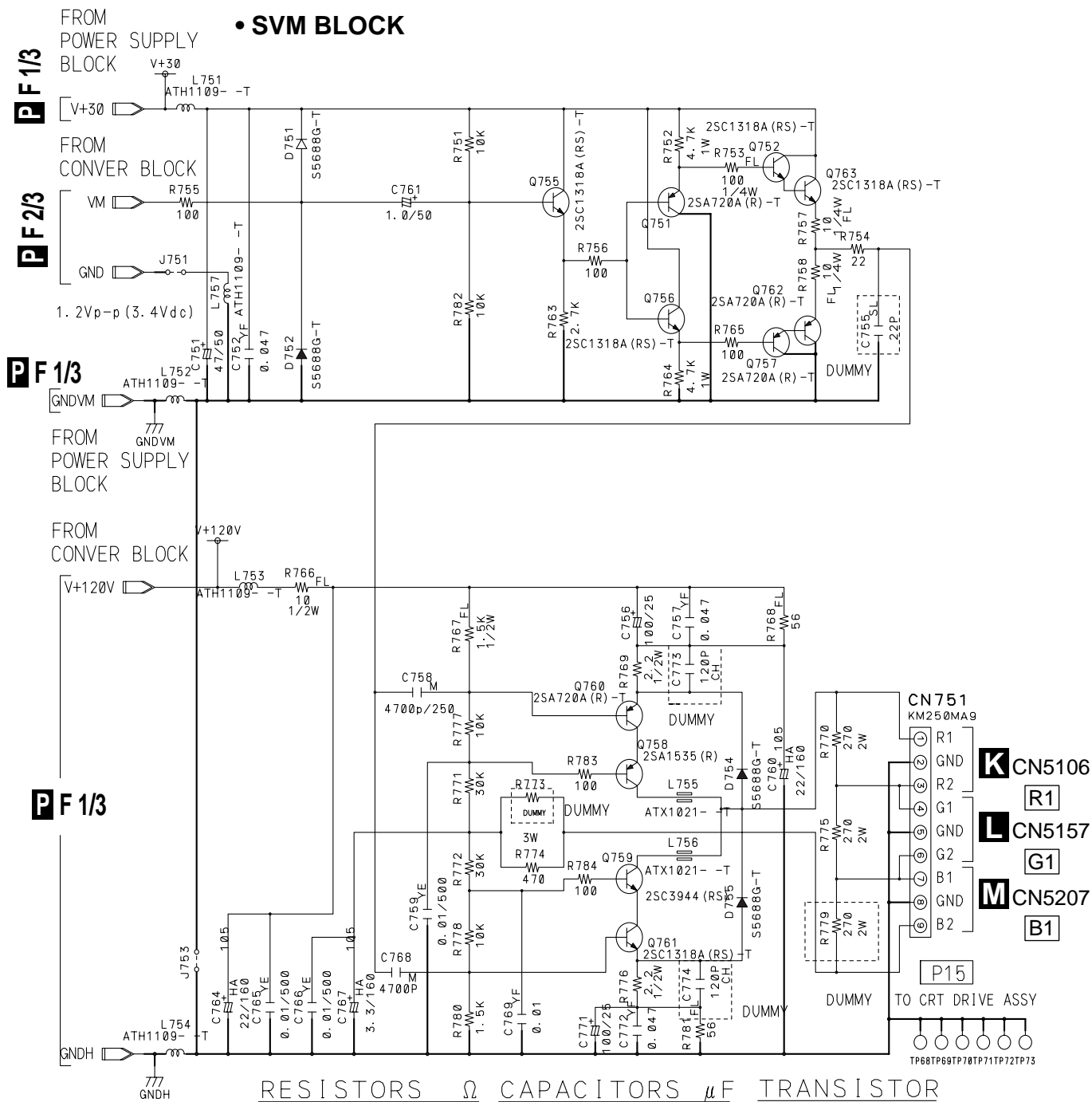


PRO-730HDI

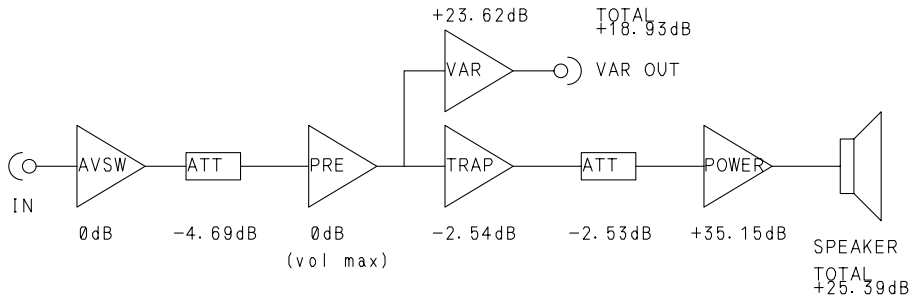
4.14 POWER SUPPLY ASSY (3/3)

P F 3/3 POWER SUPPLY ASSY (AWV2057) • SVM and AUDIO POWER BLOCKS

- SVM BLOCK

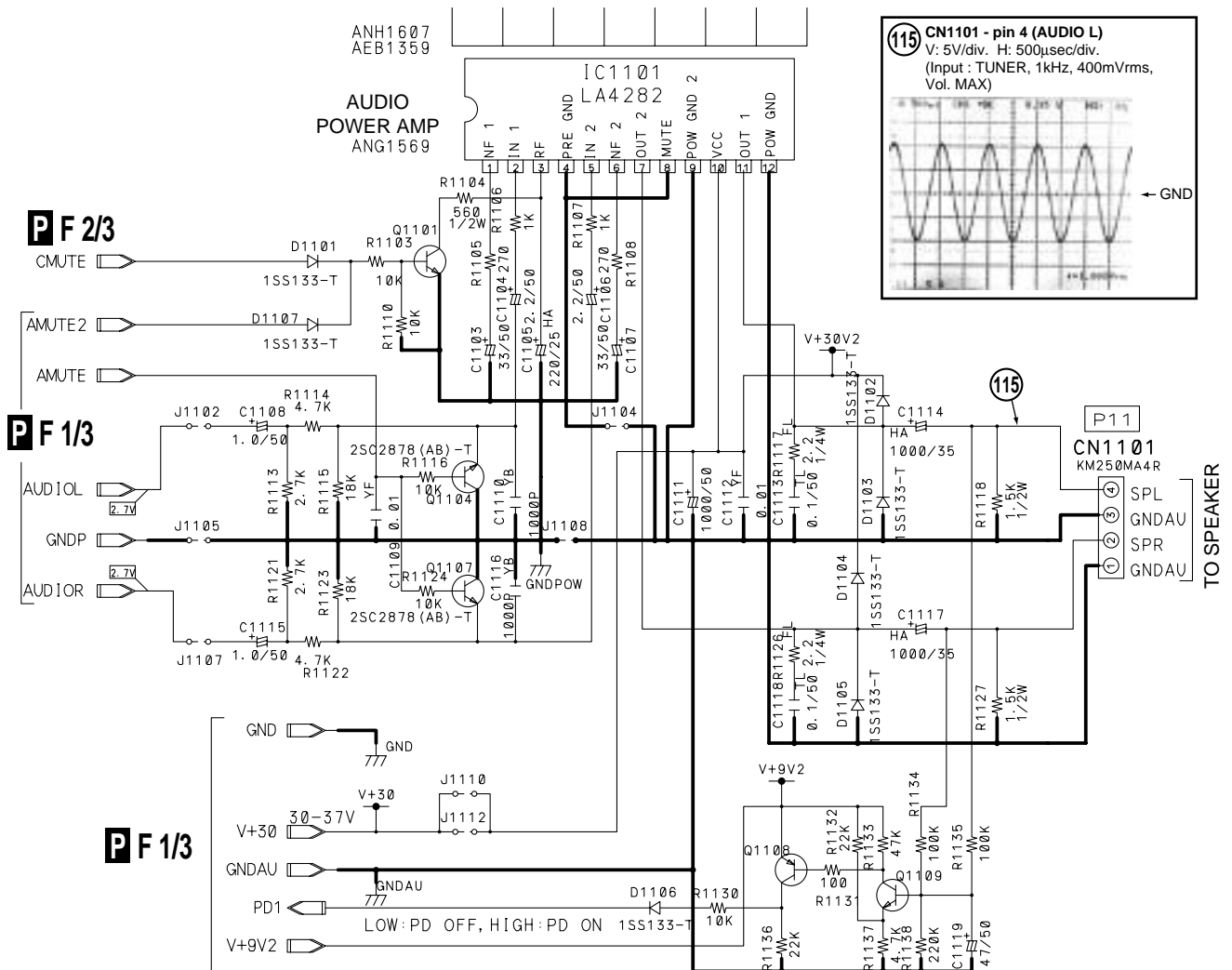


• AUDIO POWER BLOCK



IC1101 (LA4282)

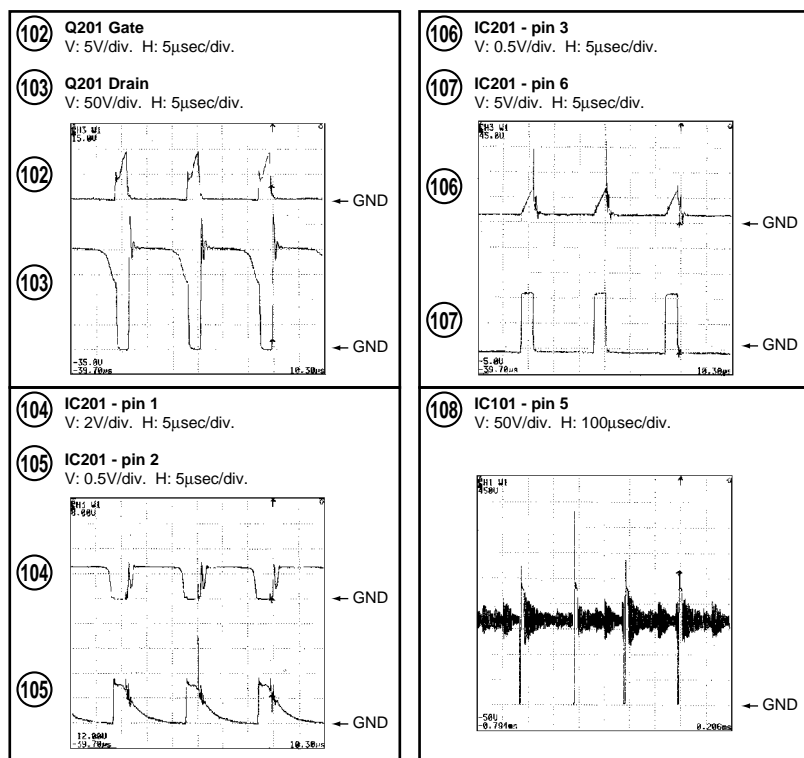
No	Voltage (V)
1	1.1
2	0.7
3	17.2
4	0
5	0.7
6	1.1
7	17.2
8	0
9	0
10	34.9
11	17.2
12	0



WAVEFORMS and VOLTAGES

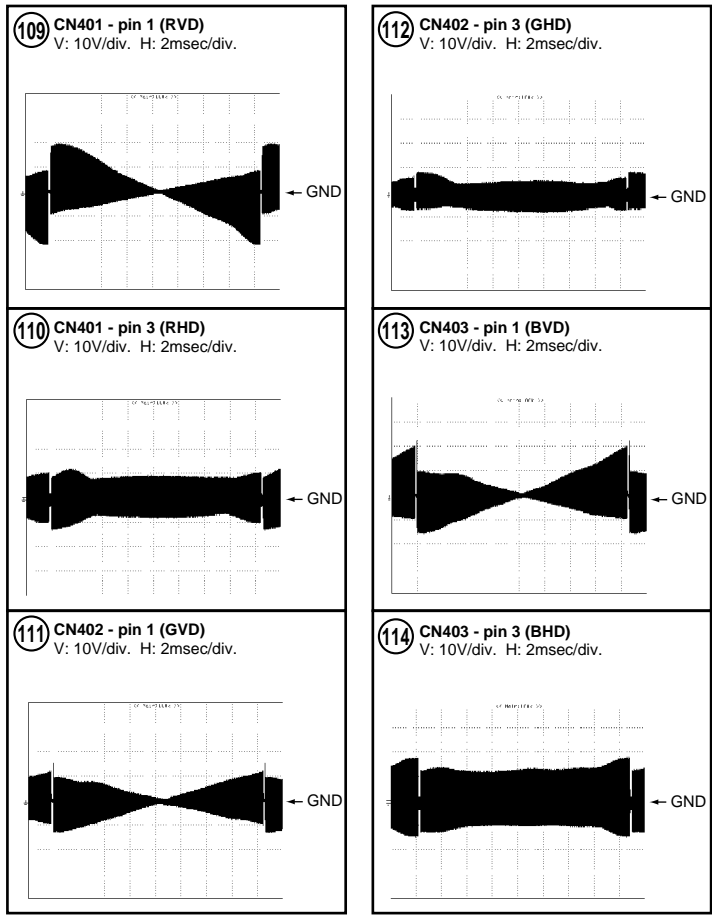
Note : The encircled numbers denote measuring point in the schematic diagram.

PF 1/3 POWER SUPPLY ASSY



PF 2/3 POWER SUPPLY ASSY

- Input signal
Input : INPUT 1 (COMPOSITE)
Video Signal : EIA color-bar




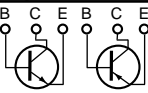

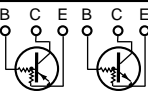

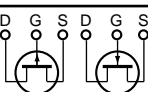

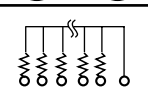

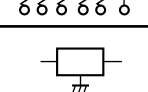
IC401 (STK392-180) IC402 (STK392-180)

No	Voltage (V)	No	Voltage (V)
1	0	1	0
2	0	2	0
3	-19.0	3	-19.0
4	-20.2	4	-20.2
5	22.0	5	22.0
6	-	6	-
7	-	7	-
8	-20.2	8	-20.2
9	-	9	-
10	22.0	10	22.0
11	-	11	-
12	-20.2	12	-20.2
13	-	13	-
14	-	14	-
15	-	15	-
16	-	16	-
17	-20.2	17	-20.2
18	-	18	-

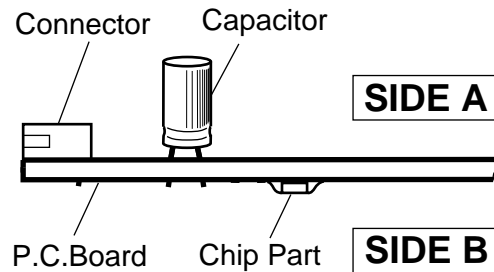
5. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

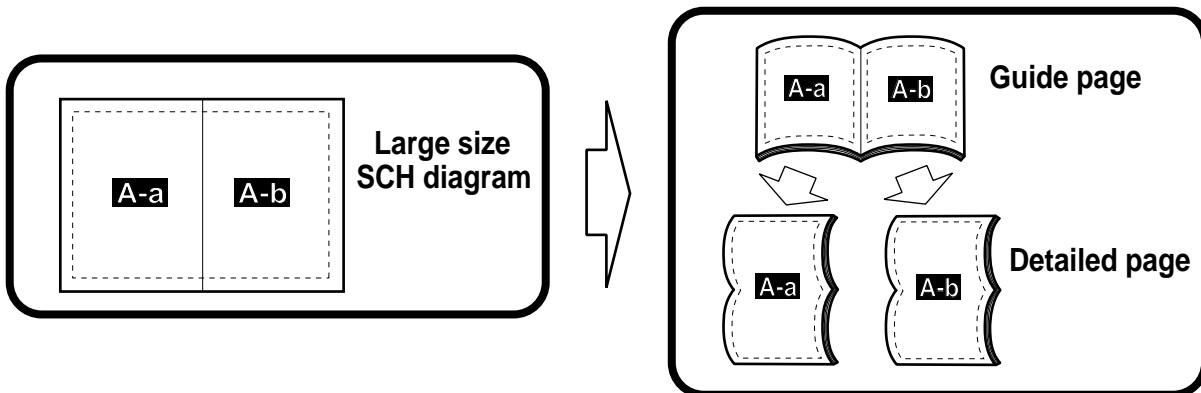
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



• For DEFLECTION SERVICE and POWER SUPPLY ASSYS



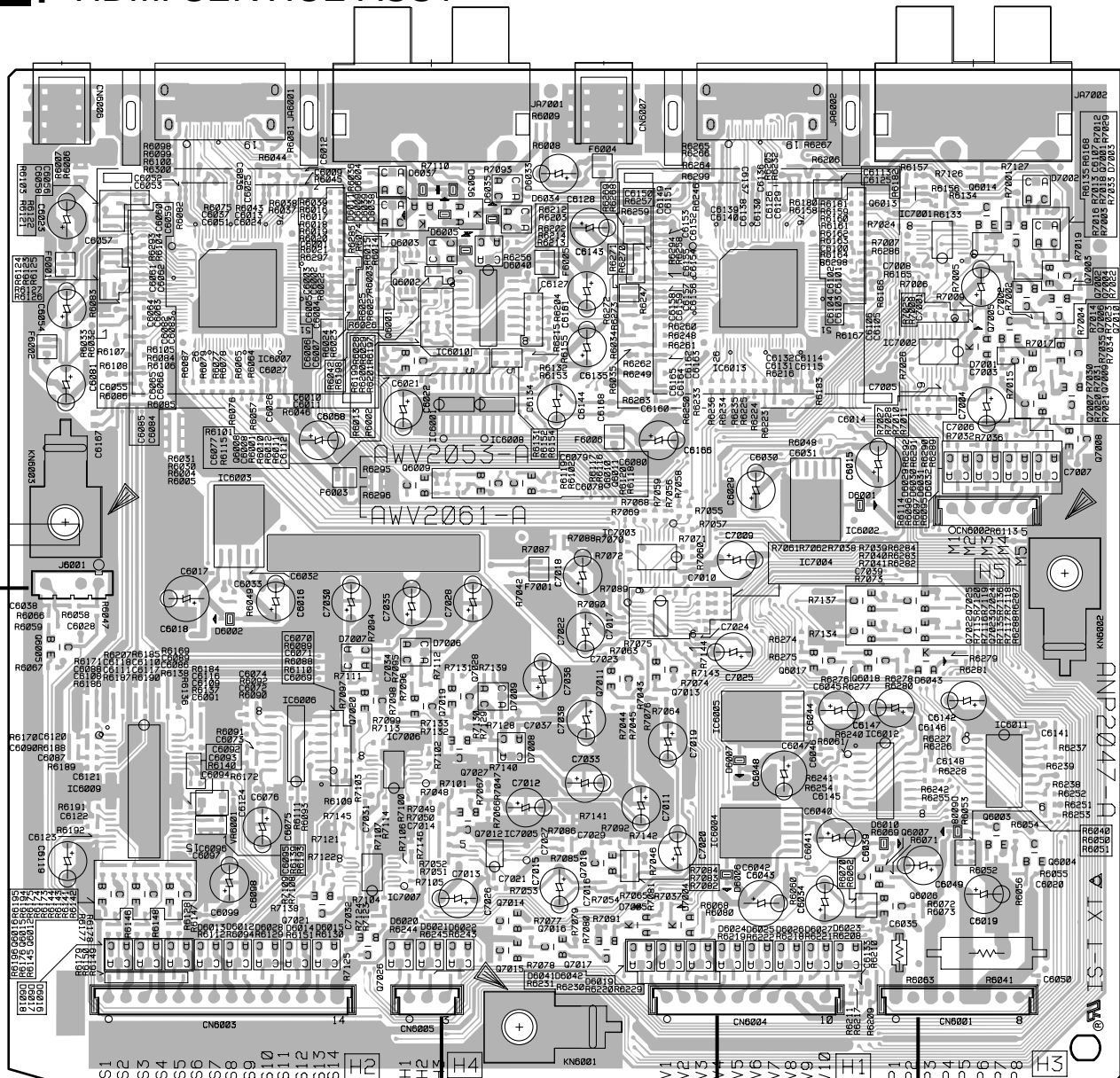
5.2 HDMI SERVICE ASSY

SIDE A

SIDE A

IC6007 Q6002 IC6010 IC6008 IC6013 IC7001 Q7001 Q7003
IC6003 Q6009 Q6010 Q6011 IC7003 IC7002 Q7002 Q7004
Q7020 Q7019 Q7011 Q7013 IC7004 Q7022 Q7023 Q7008 Q7010
Q7007 Q7009
IC6009 IC6006 IC7006 Q7027 IC7005 IC6005 IC6012 IC6011
Q6015 Q6012 Q7021 Q7018 Q6007 Q6006
Q6016 Q6012 Q7026 Q7014 Q7016 Q7015 Q7017 Q7091 Q6004

IF HDMI SERVICE ASSY



J6001
DET SW

CN6003
CN3904
CN2205
CN1901
S12
S2
V2

CN6004
CN1901
V2

CN6001
CN301
P5

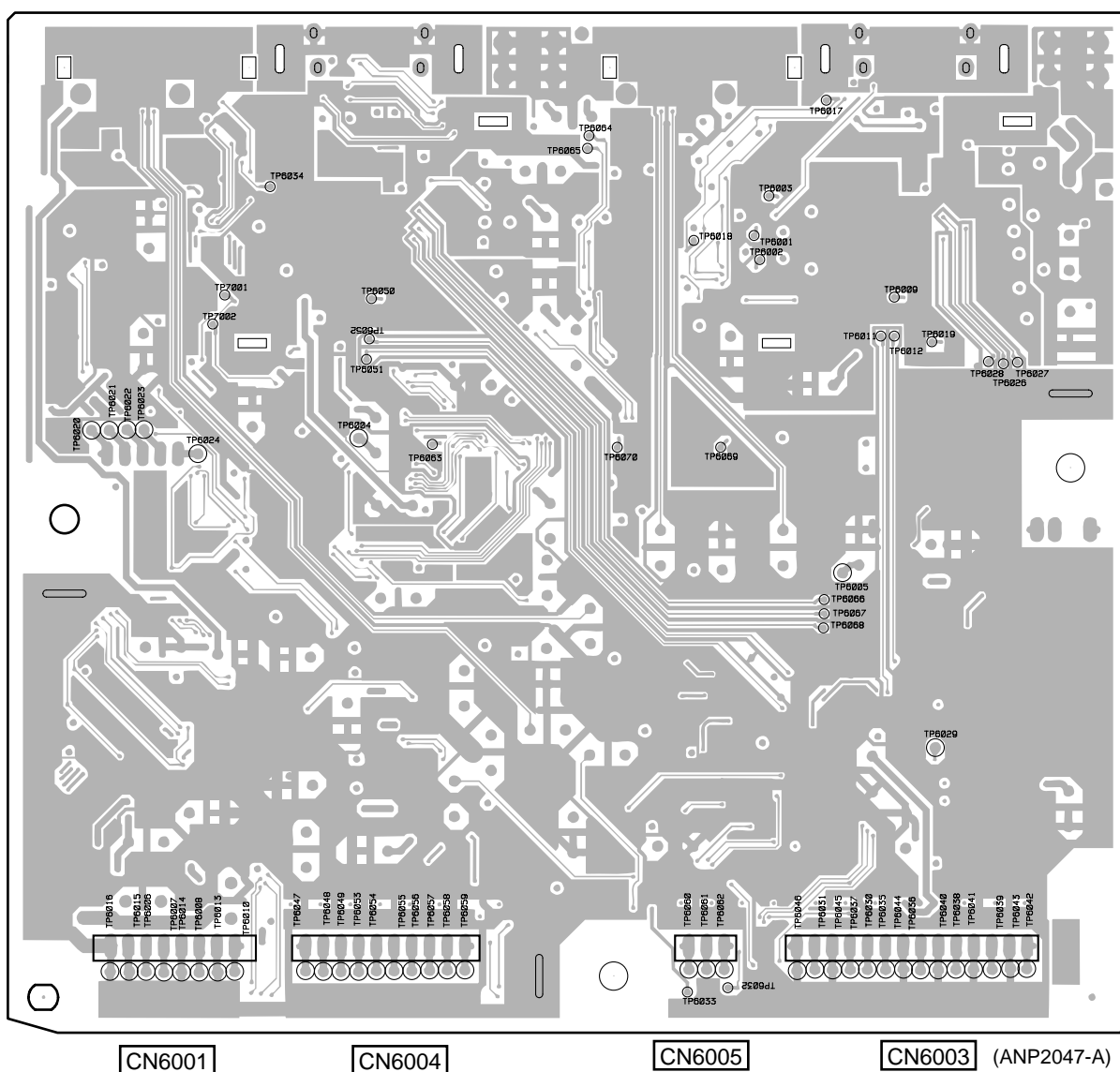
(ANP2047-A)

SIDE B

SIDE B

A

IF HDMI SERVICE ASSY



B

C

D

F

F

IF

5

6

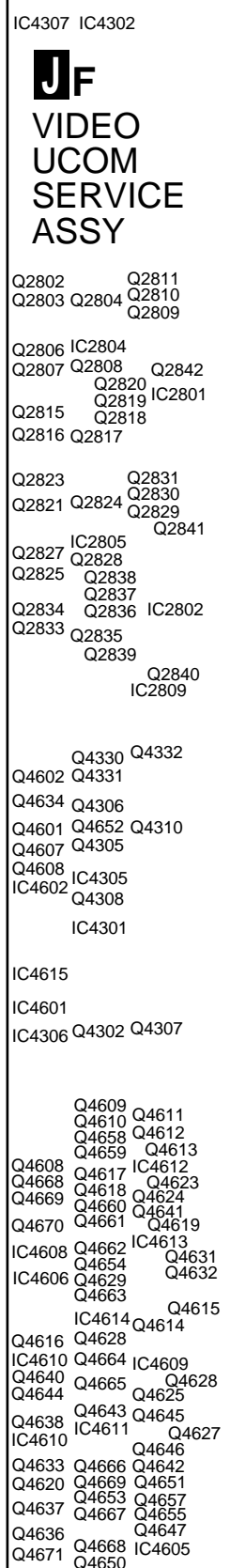
PRO-730HDI

7

8

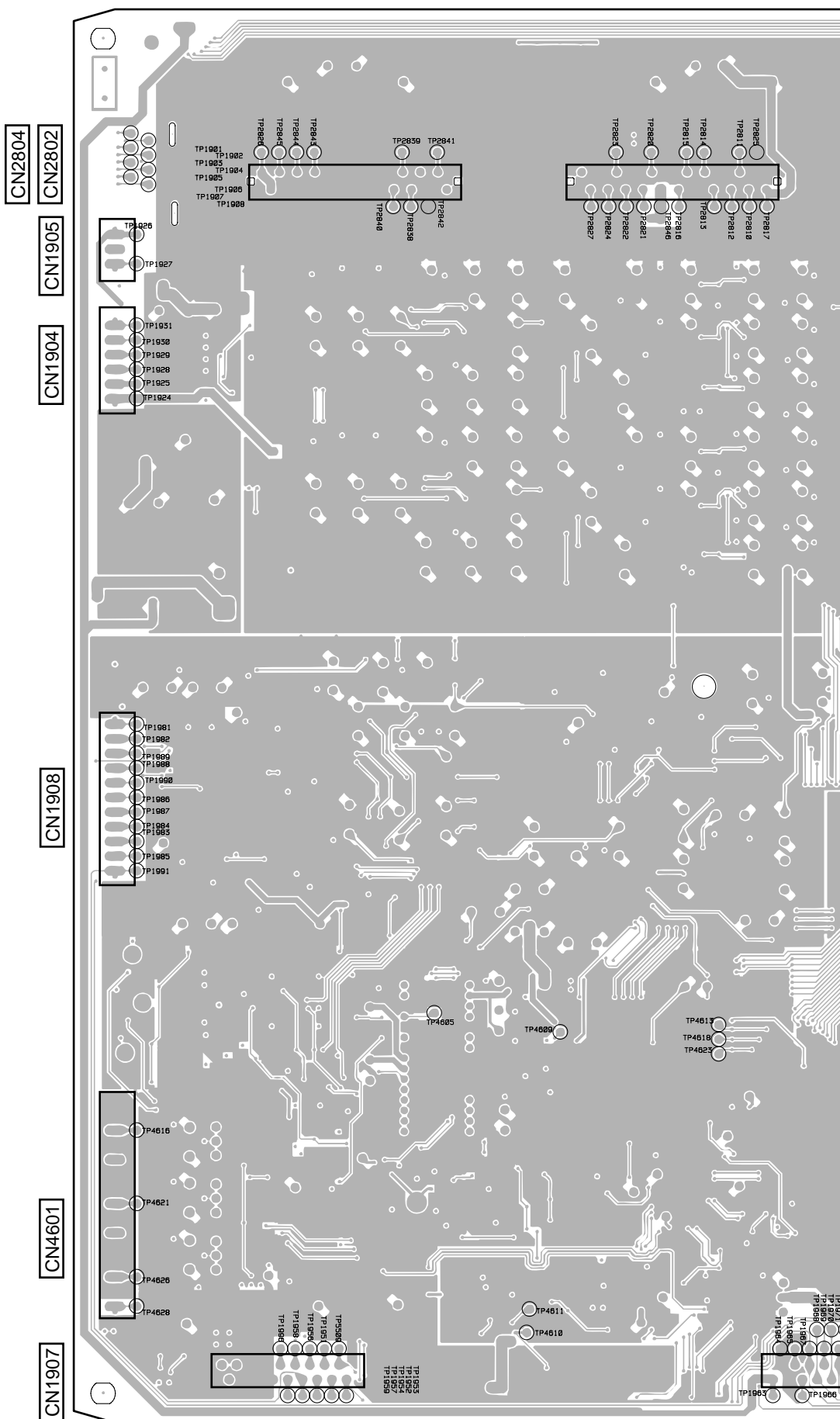
73

I F



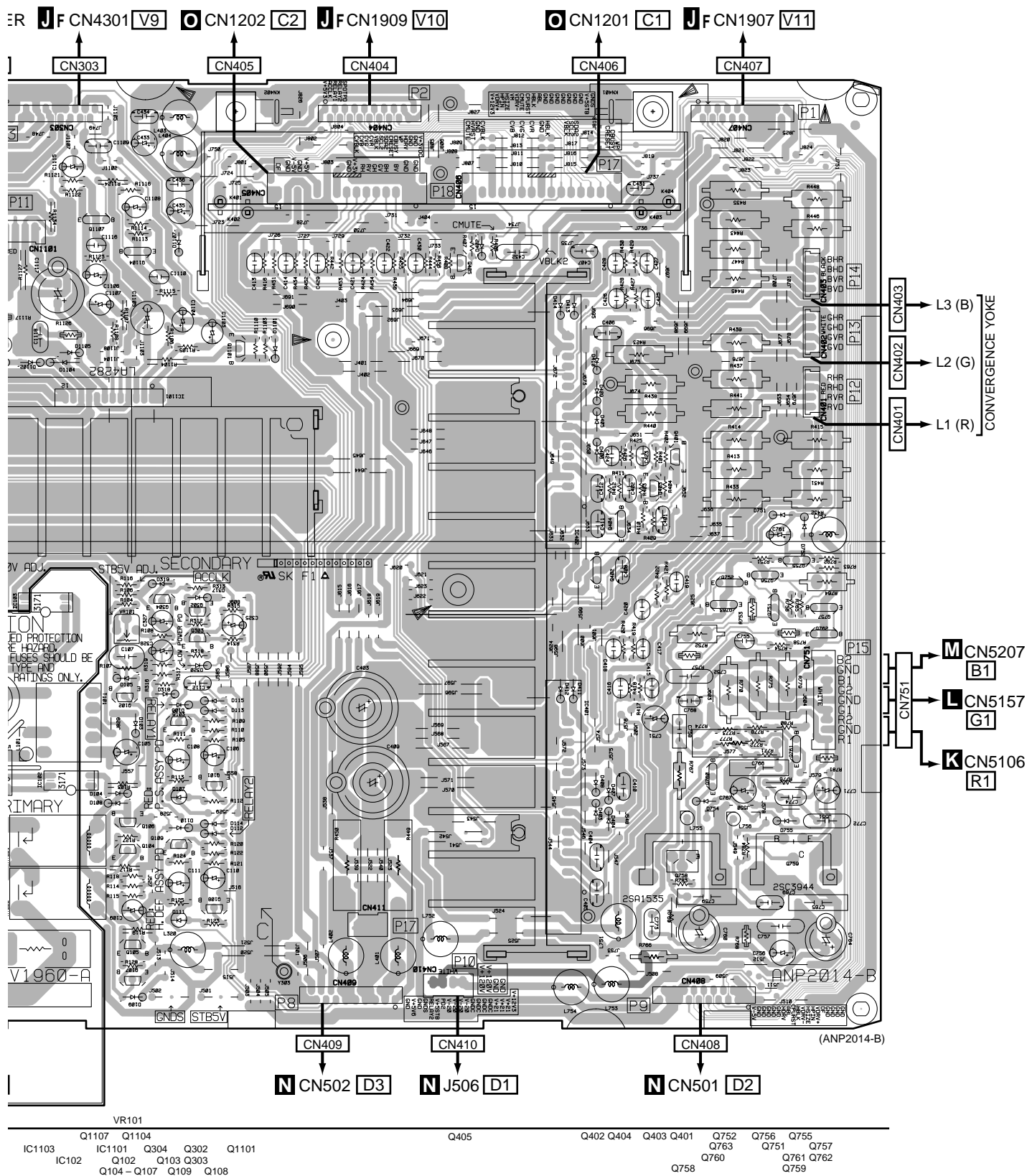
SIDE B

JF VIDEO
UCOM
SERVICE
ASSY



P-b

SIDE A



P F

A

B

C

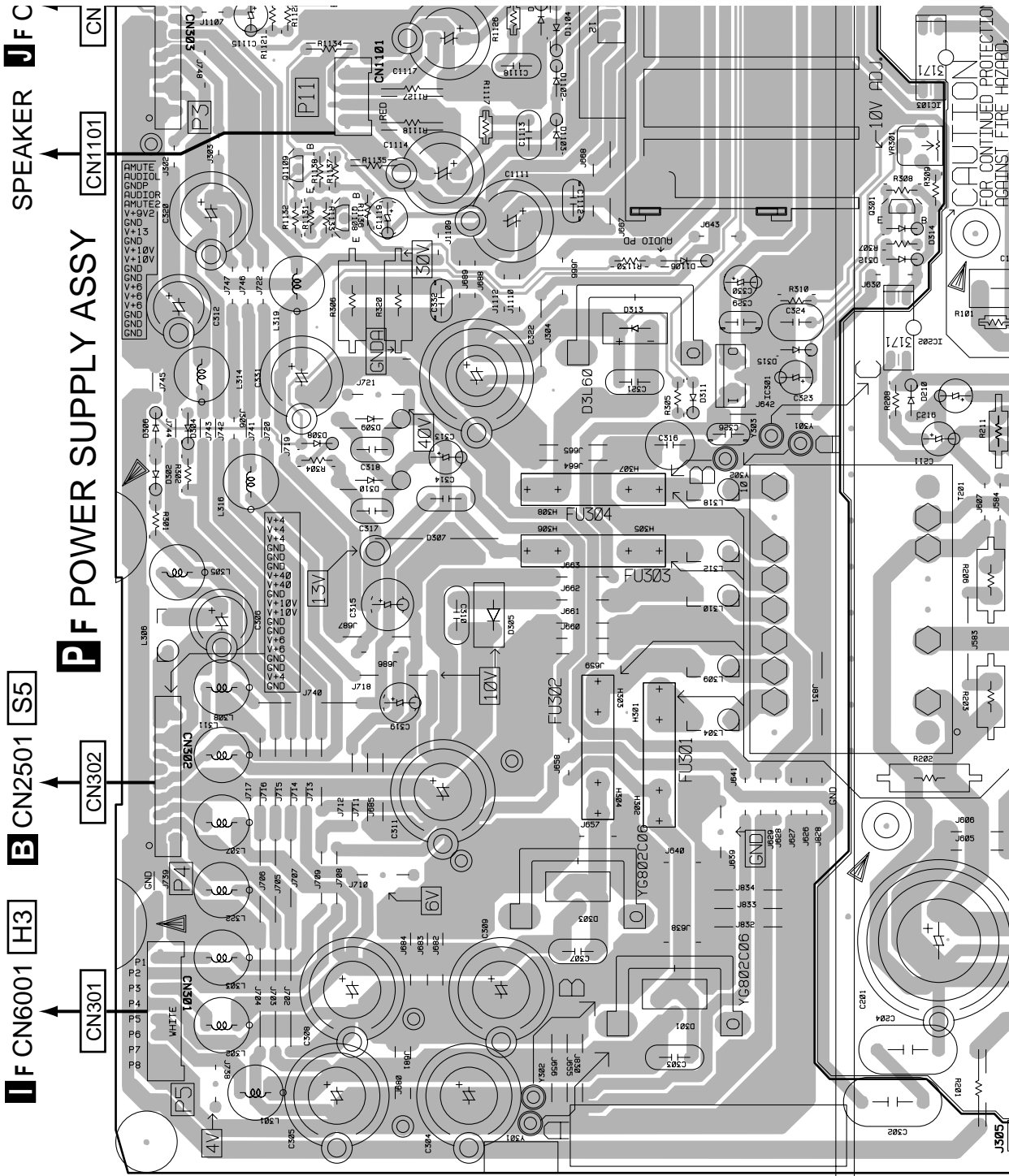
D

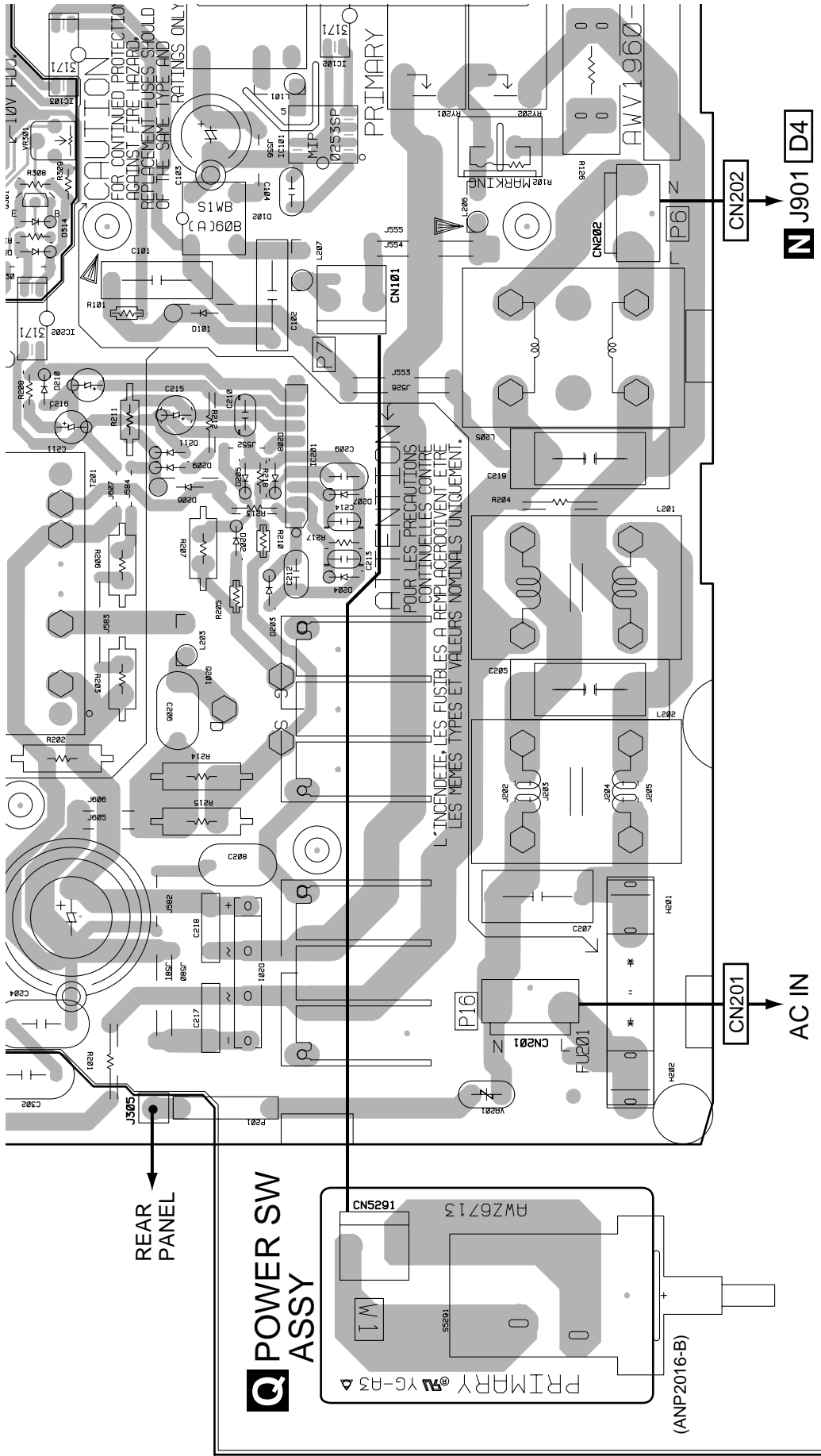
E

F

P-a P-b

SIDE A





Charged section

mark shows a high voltage generation point.

P-a P-b

A B C D E F

1

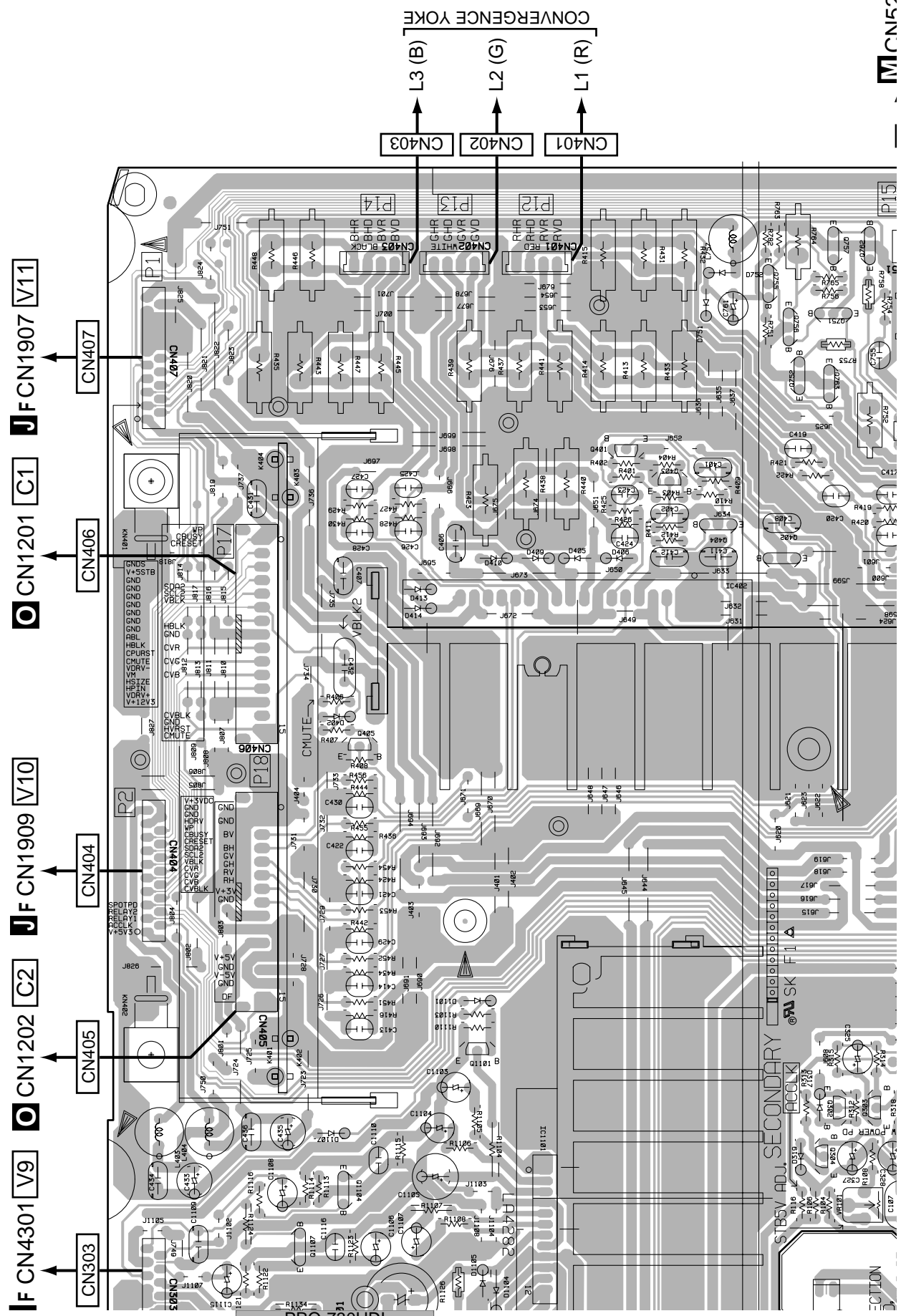
2

3

4

SIDE A

P-a P-b



MCN5207

6. PCB PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

● The Δ mark found on some component parts indicates the importance of the safety factor of the part.

Therefore, when replacing, be sure to use parts of identical designation.

● When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 \rightarrow 56 $\times 10^1 \rightarrow$ 561 RD1/4PU $\begin{bmatrix} 5 & 6 & 1 \end{bmatrix}$ J

47k $\Omega \rightarrow$ 47 $\times 10^3 \rightarrow$ 473 RD1/4PU $\begin{bmatrix} 4 & 7 & 3 \end{bmatrix}$ J

0.5 $\Omega \rightarrow$ R50 RN2H $\begin{bmatrix} R & 5 & 0 \end{bmatrix}$ K

1 $\Omega \rightarrow$ 1R0 RS1P $\begin{bmatrix} 1 & R & 0 \end{bmatrix}$ K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k $\Omega \rightarrow$ 562 $\times 10^1 \rightarrow$ 5621 RN1/4PC $\begin{bmatrix} 5 & 6 & 2 & 1 \end{bmatrix}$ F

● Parts marked by \star are important parts which relate in X-rays radiation.

If any of these parts need to be replaced, always replace with specified parts.

● Parts marked by X are important parts which relate in X-rays radiation. If a failure occurs in any of these parts, replace the printed circuit board assembly where the relevant part has already been adjusted as a working component. Do not replace the actual part itself. If any part marked by X is replaced, there is danger of being exposed to X-rays.

Mark No. Description Part No.

LIST OF ASSEMBLIES

NSP 1..CRT DRIVE ASSY AWW1962
2..R CRT DRIVE ASSY AWZ6709 *1
2..G CRT DRIVE ASSY AWZ6710 *1
2..B CRT DRIVE ASSY AWZ6711 *1
2..TUNER ASSY AWZ6712 *1
2..POWER SW ASSY AWZ6713 *1
2..D-SUB ASSY AWZ6714 *1
2..FRONT INPUT ASSY AWZ6715 *1

NSP 1..SIGNAL ASSY AWW2052
2..SIGNAL ASSY AWZ6716 *1
2..REMOTE SENSOR ASSY AWZ6717 *1
2..FRONT CONTROL ASSY AWZ6718 *1
2..BNC ASSY AWZ6720 *1
2..LED RLS ASSY AWW6822

1..HDMI SERVICE ASSY AWW2061
1..VIDEO UCOM SERVICE ASSY AWW2058
1..POWER SUPPLY ASSY AWW2057
1..DIGITAL CONV. ASSY AWW1966 *1
 \star 1..DEFLECTION SERVICE ASSY AWW1967 *1

Note: *1. The PCB PARTS. "Refer to Service manual (ARP3138)

Mark No. Description Part No.

I F HDMI SERVICE ASSY

• HDMI BLOCK SEMICONDUCTORS

IC6001, IC6008 24LC02B(I)SN
IC6011 CXA1875AM
IC6002, IC6003 PQ033EZ01ZP
IC6005 PQ05DZ51
IC6004 PQ12DZ11

IC6007, IC6013 SII9993CTG100
IC6009 SM5301BS
IC6006 TC74HC126AF
IC6012 TC74HC4066AF
Q6018 2SA1162

Q6005, Q6008-Q6011, Q6014, Q6017 2SC2712
Q6001, Q6002, Q6013 SM6K2
D6009, D6038, D6043 1SS184
D6003, D6004, D6033, D6034 1SS226
D6001, D6002, D6006, D6007 1SS355

D6036, D6037, D6039 1SS355
D6005, D6035 UDZS6.8B

COILS AND FILTERS

F6001-F6006 ATF1194

CAPACITORS

C6070, C6071, C6073, C6074 CCSRCH101J50
C6001, C6002, C6004, C6007 CCSSCH101J50
C6011-C6013, C6026, C6036, C6037 CCSSCH101J50
C6052, C6058, C6060, C6062 CCSSCH101J50
C6064, C6065, C6082, C6085 CCSSCH101J50

C6100, C6101, C6103, C6105, C6115 CCSSCH101J50
C6125, C6126, C6131, C6136, C6137 CCSSCH101J50
C6139, C6151, C6153, C6155 CCSSCH101J50
C6157, C6158, C6162, C6165 CCSSCH101J50
C6054, C6143 CEAT100M50

C6039, C6098 CEAT101M16
C6015, C6018, C6043, C6048 CEAT221M16
C6016, C6023, C6029, C6044, C6068 CEAT221M6R3
C6075, C6081, C6119, C6128, C6142 CEAT221M6R3
C6147, C6161, C6166 CEAT221M6R3

Mark No. Description Part No.

E F LED RLS ASSY

SEMICONDUCTORS

Q5002 2SA1162
Q5001 2SC2712
D5001,D5005 1SS355
D5003 SLR-56MG
D5002 SLR-56VR

CAPACITORS

C5002 CEJA101M10
C5003 CKSRYB103K50

RESISTORS

Other Resistors RS1/16S###J

Mark No.	Description	Part No.
C6022, C6135		CEAT470M16
C6086-C6088, C6109-C6111		CKSRYB105K6R3
C6042, C6091, C6095, C6120, C6121		CKSRYF103Z50
C6055, C6160		CKSSYB473K16
C6057, C6150		CKSSYF103Z50
C6003, C6005, C6006, C6008-C6010		CKSSYF104Z16
C6014, C6017, C6021, C6024, C6025		CKSSYF104Z16
C6027, C6028, C6030-C6033, C6038		CKSSYF104Z16
C6040, C6041, C6045-C6047		CKSSYF104Z16
C6050, C6051, C6053, C6056, C6059		CKSSYF104Z16
C6061, C6063, C6066, C6069, C6072		CKSSYF104Z16
C6076-C6080, C6083, C6084		CKSSYF104Z16
C6092-C6094, C6096, C6097, C6099		CKSSYF104Z16
C6102, C6104, C6106, C6107		CKSSYF104Z16
C6112-C6114, C6122-C6124		CKSSYF104Z16
C6129, C6130, C6132-C6134, C6138		CKSSYF104Z16
C6140, C6141, C6145, C6146		CKSSYF104Z16
C6148, C6149, C6152, C6154, C6156		CKSSYF104Z16
C6159, C6163, C6164		CKSSYF104Z16
C6167, C6168		DCH1161

RESISTORS

R6063	RD1/4MUF100J
R6193	RS1/16S2701F
R6172	RS1/16S3001F
R6038, R6180	RS1/16S3900F
R6086, R6250	RS1/16S3901F

R6121-R6124, R6126, R6127	RS1/16S75R0F
R6147, R6148, R6178, R6268-R6273	RS1/16S75R0F
R6139	RS1/16S8200F
R6104, R6258	RS1/16S91R0F
VR6001	CCP1392

Other Resistors	RS1/16S####J
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OTHERS

JA6001, JA6002 HDMI CONNECTOR	AKP1232
KN6001-KN6003 GROUND PLATE	ANK-142

• DIGITAL AUDIO BLOCK

SEMICONDUCTORS

IC7005	NJM12904V
IC7004	PCM1742KE
IC7006, IC7007	TC4066BFT
IC7002	TC74HC4538AFT
IC7003	TC74VHC157FT

Q7011-Q7013, Q7016, Q7018-Q7020	2SA1162
Q7022, Q7025, Q7027, Q7028	2SA1162
Q7014, Q7015, Q7017, Q7021	2SC2712
Q7023, Q7024, Q7026	2SC2712
D7001, D7004, D7005	1SS184

D7006-D7009	1SS226
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COILS AND FILTERS

F7001	ATF1194
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CAPACITORS

C7013, C7027	CCSRCH181J50
C7014, C7029	CCSRCH681J50
C7011, C7012, C7019, C7020, C7025	CEAT100M50

Mark No.	Description	Part No.
C7015, C7026, C7035, C7038		CEAT101M16
C7028, C7030, C7033, C7036		CEAT1R0M50
C7002, C7004		CEAT220M50
C7009, C7018, C7022		CEAT221M6R3
C7003, C7010, C7016, C7017, C7021CKSSYF104Z16		
C7023, C7024, C7031, C7032, C7034CKSSYF104Z16		
C7037, C7039		CKSSYF104Z16

RESISTORS

Other Resistors	RS1/16S####J
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OTHERS

JA7001, JA7002	PKB1035
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Other Resistors

RESISTORS

Other Resistors	RS1/16S####J
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OTHERS

CN6004 10P TOP POST	B10B-EH
CN6003 14P TOP POST	B14B-EH
CN6005 3P TOP POST	B3B-EH
CN6001 8P TOP POST	B8B-EH
6006,6007 SCREW TERMINAL	VNE1949

J F VIDEO UCOM SERVICE ASSY

• UCOM BLOCK

SEMICONDUCTORS

IC1903	24LC32A(I)P
IC1905	M62399FP
IC1906	M306V7FGFP
IC1902	PQ033EZ01ZP
IC1908,IC1909	PST9228N

IC1904,IC1907	TC74VHCT541AFT
Q1905-Q1907,Q1912,Q1916	2SA1162
Q1903,Q1908-Q1911,Q1913,Q1914	2SC2712
Q1917-Q1919	2SC2712
Q1901	2SJ461A

Q1902,Q1904	HN1B04FU
D1902-D1908,D1910	1SS226
D1911,D1913,D1921,D1924	1SS226
D1927-D1931,D1937,D1938,D1941	1SS226
D1901,D1912,D1914,D1916,D1917	1SS355

D1919,D1920,D1923,D1926	1SS355
D1909	RD6.8MB
D1918	UDZ3.6B
D1915	UDZS5.6B

CAPACITORS

C1921,C1931	CCSRCH221J50
C1961,C1962	CCSRCH5R0C50
C1927,C1929	CCSRCH681J50
C1935	CCSRCK2R0C50
C1952	CEANP101M16

C1912,C1913,C1915	CEAT100M50
C1904,C1938	CEAT102M6R3
C1943,C1945	CEAT4R7M50
C1920,C1930,C1949,C1956	CKSRYB102K50
C1908,C1911,C1914,C1916,C1918	CKSRYB103K50

Mark No.	Description	Part No.
C1919,C1926,C1939,C1948,C1955		CKSRYB103K50
C1922,C1932,C1957,C1960		CKSRYB105K6R3
C1936		CKSRYB153K50
C1958,C1959		CKSRYB472K50
C1946,C1953		CKSRYB472K50
C1927,C1929,C1950,C1951		CKSRYB561K50
C1902,C1903,C1905,C1907,C1909		CKSRYF104Z16
C1923-C1925,C1928,C1933,C1934		CKSRYF104Z16
C1937,C1940,C1942,C1947,C1954		CKSRYF104Z16

RESISTORS

R1903,R1907,R1908,R1937	DCN1092
R1944,R1950-R1952	DCN1092
R1963-R1965,R1971,R1972,R1978	DCN1092
R1989,R2000,R2004-R2007,R2027	DCN1092
R1947	DCN1100
R1916	RS1/16S1001F
R1931	RS1/16S1002F
R1932	RS1/16S3002F
R1980,R1983,R1986	RS1/16S3901F
R1979,R1982,R1985	RS1/16S6800F
Other Resistors	RS1/16S###J

OTHERS

X1901 CERAMIC RESONATOR (16MHz)	ASS1159
CN1903 PLUG 8-P	CKS3130
CN1901 PLUG 10-P	KM250MA10
CN1908 PLUG 11-P	KM250MA11
CN1905 PLUG 3-P	KM250MA3
CN1904 PLUG 6-P	KM250MA6
CN1906,CN1907,CN1909	19RK-1.25FJN
SOCKET19-P	

• AFC BLOCK SEMICONDUCTORS

IC2804,IC2805	M52055FP
IC2802	PQ018EZ01ZP
IC2801,IC2809	PQ033EZ01ZP
IC2808	PQ09DZ11
IC2803,IC2806	TA1340F
IC2807	TC74ACT04FT
Q2803,Q2807,Q2809-Q2811,Q2816	2SA1162
Q2821,Q2825,Q2829-Q2831,Q2834	2SA1162
Q2801,Q2804,Q2805,Q2808,Q2814	2SC2712
Q2817,Q2822,Q2824,Q2826,Q2828	2SC2712
Q2832,Q2835,Q2839,Q2843,Q2844	2SC2712
Q2818-Q2820,Q2836-Q2838	2SC4213
Q2840-Q2842	HN1B04FU
Q2806,Q2812,Q2815,Q2823,Q2827	HN1C01FU
Q2833	HN1C01FU
D2801-D2806	1SS355

COILS AND FILTERS

L2803,L2805,L2808,L2811,L2812	LFA5R6J
L2815,L2818	LFA5R6J
L2801	LFEA220J
L2806,L2809,L2813,L2816,L2819	LFEA4R7J

CAPACITORS

C2820,C2870	CCSRCH100D50
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Mark No.	Description	Part No.
C2840,C2895		CCSRCH120J50
C2831		CCSRCH220J50
C2946,C2947		CCSRCH221J50
C2844,C2859,C2868,C2869,C2873		CCSRCH330J50
C2897,C2911,C2930-C2937		CCSRCH330J50
C2845,C2860,C2874,C2898,C2912		CCSRCH331J50
C2832,C2833,C2846,C2861,C2875		CCSRCH470J50
C2899,C2913		CCSRCH470J50
C2825,C2829,C2881,C2887		CEAT101M10

C2801,C2805,C2806,C2810,C2958	CEAT102M6R3
C2827,C2893	CEAT1R0M50
C2854,C2855,C2908,C2909,C2959	CEAT220M50
C2950,C2954	CEAT221M16
C2811,C2812,C2823,C2824,C2834	CEAT470M10

C2837,C2851,C2862,C2866,C2867	CEAT470M10
C2871,C2876,C2880,C2889,C2890	CEAT470M10
C2914	CEAT470M10
C2802-C2804,C2807-C2809,C2817	CKSRYB103K50
C2826,C2828,C2830,C2838,C2843	CKSRYB103K50

C2850,C2858,C2865,C2872,C2879	CKSRYB103K50
C2882,C2888,C2892,C2894,C2896	CKSRYB103K50
C2902,C2906,C2907,C2918,C2921	CKSRYB103K50
C2924,C2949,C2951-C2953	CKSRYB103K50
C2955-C2957	CKSRYB103K50

C2813-C2816,C2852,C2857	CKSRYB104K16
C2883-C2886,C2903	CKSRYB104K16
C2841,C2904	CKSRYB222K50
C2842,C2905	CKSRYB224K10

RESISTORS

R2838,R2852,R2898,R2917,R2946	RS1/16S1201F
R2990,R2993,R2996,R2999	RS1/16S1201F
R2983,R2984,R2986,R2987,R2989	RS1/16S1501F
R2992,R2995,R2998	RS1/16S1501F
R2815,R2899	RS1/16S1602F

R2834,R2869,R2902,R2916,R2944	RS1/16S2200F
R2822,R2903	RS1/16S3000F
R2835,R2870,R2923,R2949	RS1/16S3300F
R2874,R2952	RS1/16S3301F
R2812,R2837,R2872,R2905,R2925	RS1/16S5600F

R2945	RS1/16S5600F
R2825,R2907	RS1/16S5601F
R2811	RS1/16S6800F
R2853,R2947	RS1/16S8201F
R2801	RS2MMF2R2J

Other Resistors	RS1/16S###J
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OTHERS

X2801,X2803 CERAMIC RESONATOR (3.5MHz)	ASS1019
X2802,X2804 CRYSTAL RESONATOR	ASS1091
CN2801,CN2803 SOCKET19-P	19RK-1.25FJN
CN2802,CN2804 22P CONNECTOR	AKP1228

• SHARPNESS BLOCK SEMICONDUCTORS

IC4301	AN5395FBP
IC4305,IC4306	M52055FP
IC4302,IC4303,IC4307	PQ05DZ11
IC4304	PQ09DZ11
Q4306,Q4307,Q4330	2SA1162

Mark No.	Description	Part No.
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Q4310,Q4311,Q4331,Q4332	2SC2712
Q4301,Q4302,Q4309	HN1B04FU
Q4303	HN1C01FU
D4301-D4304	1SS355

COILS AND FILTERS

F4302	ATF1194
L4304-L4306	ATH1108
L4307	LCTA4R7J2520
L4310,L4312	LFA1R5J
L4302,L4311	LFA5R6J
L4301	LFA820J

CAPACITORS

C4365-C4367	CCSRCH101J50
C4369	CCSRCH270J50
C4310	CCSRCH470J50
C4302	CCSRCH560J50
C4337,C4342,C4343	CEANP470M25

C4315	CEAT100M50
C4349,C4350	CEAT101M16
C4323,C4324,C4335,C4348	CEAT102M10
C4326,C4329,C4376,C4380,C4382	CEAT102M6R3
C4336,C4338,C4341,C4344,C4345	CEAT470M16

C4347,C4351,C4353,C4354	CEAT470M16
C4360,C4361	CEAT470M16
C4333,C4362	CEAT471M16
C4303-C4309,C4311,C4312,C4314	CKSRYB103K50
C4316,C4317,C4319-C4322,C4325	CKSRYB103K50

C4327,C4328,C4330,C4334	CKSRYB103K50
C4339,C4340,C4346,C4352,C4359	CKSRYB103K50
C4363,C4370,C4371,C4373	CKSRYB103K50
C4377-C4379	CKSRYB103K50
C4318	CKSRYB105K10

C4355-C4358	CKSRYB224K10
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RESISTORS

R4306,R4307	RS1/16S1001F
R4322	RS1/16S1501F
R4301,R4303	RS1/16S2001F
R4514	RS1/16S3901F
Other Resistors	RS1/16S####J

OTHERS

CN4301 SOCKET19-P	19RK-1.25FJN
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• VIDEO BLOCK

SEMICONDUCTORS

IC4609	AD8057ART
IC4604	BA7655AF
IC4606	CXA2153S
IC4608	CXA2180Q
IC4601	M52055FP
IC4611	NJM319M
IC4605	PQ12DZ11
IC4610	TC74HC126AF
IC4602	TC74HC4053AF
IC4612-IC4614	TC7SB66FU

IC4615	TC7SET08FU
IC4603	TC7W53FU
Q4601,Q4606-Q4608,Q4613,Q4619	2SA1162

Mark No.	Description	Part No.
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Q4632,Q4633,Q4648,Q4654	2SA1162
Q4645	2SA1669

Q4609,Q4610,Q4614,Q4616-Q4618	2SC2712
Q4625,Q4628,Q4629,Q4635-Q4638	2SC2712
Q4640,Q4642-Q4644,Q4646,Q4653	2SC2712
Q4658-Q4663,Q4665,Q4671	2SC2712
Q4611,Q4623,Q4631	2SK209

Q4650	HN1A01FU
Q4603,Q4605,Q4612,Q4624,Q4641	HN1B04FU
Q4666-Q4670	HN1B04FU
Q4620,Q4630,Q4647,Q4649,Q4651	HN1C01FU
Q4664	HN1C01FU

D4601,D4602	1SS184
D4614	1SS226
D4603,D4604,D4606,D4609,D4610	1SS355
D4612,D4615	1SS355
D4617-D4619,D4623-D4625	1SS355

COILS AND FILTERS

L4603	LCTA4R7J2520
L4601	LCTA470J2520
L4602	QTL1013

CAPACITORS

C4724	CCSRCH150J50
C4734	CCSRCH221J50
C4685	CCSRCH330J50
C4696,C4697,C4703	CCSRCH7R0D50
C4666,C4699	CEAT100M50

C4618,C4640,C4650,C4658,C4668	CEAT101M10
C4693,C4705,C4708,C4712,C4730	CEAT101M10
C4735	CEAT101M10
C4601,C4603,C4606,C4607,C4609	CEAT470M16
C4611,C4612,C4633,C4652,C4654	CEAT470M16

C4664,C4716,C4721	CEAT470M16
C4614,C4616	CEAT471M16
C4621,C4649	CEAT4R7M50
C4602,C4605,C4610,C4613,C4615	CKSRYB103K50
C4617,C4619,C4629,C4631,C4632	CKSRYB103K50

C4637,C4641,C4642,C4647,C4648	CKSRYB103K50
C4651,C4653,C4655,C4656	CKSRYB103K50
C4659-C4661,C4665,C4667	CKSRYB103K50
C4670-C4676,C4678-C4681,C4683	CKSRYB103K50
C4686-C4692,C4694,C4695,C4702	CKSRYB103K50

C4704,C4706,C4707,C4709-C4711	CKSRYB103K50
C4713-C4715,C4722,C4723	CKSRYB103K50
C4725-C4727,C4736,C4737	CKSRYB103K50
C4623-C4628,C4630,C4634-C4636	CKSRYB104K16
C4638,C4639,C4644-C4646,C4701	CKSRYB104K16

C4738,C4739	CKSRYB104K16
C4643,C4662,C4684,C4733	CKSRYB105K10
C4682,C4719,C4720	CKSRYB105K6R3
C4669	CKSRYB472K50
C4620,C4622,C4677	CKSRYB474K10

C4657	CQHA104J50
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RESISTORS

R4667,R4709,R4724	RD1/4MUF390J
R4721,R4737,R4900	RS1/16S1000F

Mark No.	Description	Part No.
A	R4725	RS1/16S1001F
	R4651,R4699,R4713,R4730,R4809	RS1/16S1002F
	R4661,R4700,R4755,R4778,R4785	RS1/16S1201F
	R4794	RS1/16S1201F
	R4800	RS1/16S1202F
	R4801	RS1/16S1501F
	R4626,R4796	RS1/16S1801F
	R4776	RS1/16S2001F
B	R4774,R4784,R4888	RS1/16S2201F
	R4727,R4793	RS1/16S2202F
	R4863,R4875,R4885	RS1/16S2700F
	R4708,R4723,R4752,R4815	RS1/16S3301F
	R4612	RS1/16S3302F
	R4662,R4701,R4756	RS1/16S3601F
	R4619	RS1/16S3900F
	R4637	RS1/16S3901F
	R4795	RS1/16S4301F
	R4799	RS1/16S4302F
	R4620,R4643,R4876	RS1/16S4701F
	R4722,R4759,R4835	RS1/16S47R0F
	R4777	RS1/16S5101F
C	R4614,R4665,R4862,R4874,R4884	RS1/16S5600F
	R4805	RS1/16S5601F
	R4629,R4783	RS1/16S6201F
	R4773	RS1/16S6800F
	R4775	RS1/16S6801F
	R4789	RS1/16S7501F
	R4806,R4807	RS1/16S8201F
	Other Resistors	RS1/16S###J
D	OTHERS	
	X4601 CERALOCK	ASS1166
	CN4602 SOCKET19-P	19RK-1.25FJN
	CN4601 PLUG 15-P	KM250MA15
	• AUDIO PRE BLOCK SEMICONDUCTORS	
	IC5502	BH3865S
	IC5501,IC5503,IC5504	NJM4558MD
	Q5501-Q5506	2SC2712
E	CAPACITORS	
	C5507,C5514	CCSRCH331J50
	C5508,C5518,C5519	CEAT100M50
	C5502,C5534	CEAT101M10
	C5523	CEAT101M16
	C5501,C5504-C5506	CEAT220M50
	C5509	CEAT471M16
	C5512,C5520,C5524,C5527,C5528	CEAT4R7M50
	C5533,C5537	CFTLA274J50
	C5532,C5539	CFTLA393J50
	C5529,C5538	CFTLA473J50
	C5530,C5536	CFTLA684J50
	C5503,C5510,C5531,C5535	CKSRYB103K50
	C5522	CKSRYB104K16
F	C5517,C5525	CKSRYB471K50
	C5521	CKSRYB562K50
	C5513,C5526	CKSRYB683K16
	RESISTORS	
	R5549,R5550,R5552,R5553	RS1/10S271J
	R5533,R5537,R5558,R5562	RS1/10S561J

Mark No.	Description	Part No.
R5525	R5525	RS1/16S1602F
	R5524	RS1/16S2002F
	Other Resistors	RS1/16S###J
OTHERS		
CN5501	SOCKET19-P	19RK-1.25FJN

P F POWER SUPPLY ASSY

• STAND-BY BLOCK SEMICONDUCTORS

⚠ IC101	MIP0253SP
IC102, IC103	ON3171
Q101, Q108	2SA933S
Q102- Q107, Q109	2SC1740S
D104- D106, D108- D110	1SS133
D112- D116	1SS133
D107, D111	BR3371XJ30A
D103	D1NS4
D101	ERB06-15
D102	S1WB(A)60B

COILS AND FILTERS

⚠ T101	ATK1133
L101	ATX1008

CAPACITORS

C101 (0.1/275V)	ACE1156
C102 (0.01/275V)	ACE1157
C106, C110	CEAT100M50
C108, C109, C111	CEAT470M25
C105	CEHAT331M10
C103	CEHAT470M2D
C104	CFTLA104J50
C112	CKCYF103Z50

RESISTORS

R102 (2.7)	ACN1161
R101	RD1/4MUF103J
R107	RN1/4PC3301F
R104	RN1/4PC3901F
R126	RT5PZ1R8K
VR101 (1k)	VCP1151
Other Resistors	RD1/4PU###J

OTHERS

CN101 PLUG 2-P	AKM1127
----------------	---------

• PRIMARY BLOCK SEMICONDUCTORS

⚠ IC201	AN8029
IC202	ON3171
⚠ Q201	2SK1938-R
D206	11DF2
D201	D3SBA60
D202, D205	MA723
D209	MTZJ24
⚠ VA201	TNR5V471K300

Mark No. Description Part No.

COILS AND FILTERS

⚠ L201, L202 ATF1183
 ⚠ L205 ATF1207
 L203, L206, L207 ATX1021
 L208 ATX1023

TRANSFORMERS

⚠ T201 ATK1155

SWITCHES AND RELAYS

RY201, RY202 ASR1052

CAPACITORS

⚠ C205, C207, C219 (0.22/275V) ACE1155
 C217, C218 (0.01F/AC250V) ACG-501
 C206, C208 (3300pF) ACG1008
 C204 (4700pF/AC250V) ACG1064
 C201 (820/200V) ACH1148

C212 CCCCH121J50
 C215 CEHAT101M25
 C216 CEHAT1R0M50
 C211 CEHAT220M50
 C210 CKCYF103Z50

C213 CQMA182J50
 C209 CQMA473J50
 C214 CQMA822J50

RESISTORS

R201, R204 (2.2M, 1/2W) RCN1080
 R211 RD1/2MMF100J
 R205 RD1/4MUF100J
 R210 RD1/4MUF681J
 R207 RS1MMF151J

R203, R206 RS1MMF333J
 R202 RS2MMF104J
 R214, R215 RS2MMFR47J
 Other Resistors RD1/4PU###J

OTHERS

⚠ FU201 FUSE (10A) AEK1069
 CN201, CN202 PLUG 2-P AKM1156
 H201, H202 FUSE HOLDER AKR1007
 ⚠ P201 SURGE ABSORBER DSS-302M-S00B
 SCREW PMB30P100FMC

SCREW PMZ30P100FZK

• SECONDARY BLOCK SEMICONDUCTORS

IC301 NJM7805FA
 Q302, Q303 2SA933S
 Q301, Q304 2SC1740S
 D309, D310 11DF2
 D302, D304, D308, D311, D312 1SS133

D314, D317- D320 1SS133
 D313 D3L60
 D307 ERC91-02L
 D306 MTZJ2.7A
 D315 MTZJ5.1A

D301, D303 YG802C06R

Mark No. Description Part No.

D305 YG911S2R

COILS AND FILTERS

L305, L314, L316 ATH1107
 L301- L303, L307, L308, L311 ATH1108
 L319, L322 ATH1108
 L320 ATH1109
 L306 ATX1008

L304, L309, L310, L312, L318 ATX1021

CAPACITORS

C302 (4700pF/AC250V) ACG1064
 C317, C318 CCCSL101K2H
 C303, C307, C310, C314, C321 CCCSL221K2H
 C313, C325, C327, C328 CEAT100M50
 C330 CEAT101M10

C323 CEAT1R0M50
 C319 CEHAT100M2A
 C306, C312 CEHAT222M10
 C320, C331 CEHAT222M16
 C322 CEHAT332M50

C315 CEHAT471M16
 C304, C305, C308, C309 CEHAT682M10
 C311 CEHAT682M16
 C316 CFTLA105J50
 C326, C329, C332 CKCYF103Z50

C324 CQMA104J50

RESISTORS

R306, R320 RS2MMF272J
 VR301 (1k) VCP1151
 Other Resistors RD1/4PU###J

OTHERS

⚠ J305 1P LEAD WIRE ADX2795
 H301- H308 FUSE CLIP AKR1003
 CN301 PLUG 8-P KM250MA8
 CN302, CN303 PLUG 19-P 19P-250K-1.25FJNA
 SCREW PMZ30P100FZK

⚠ FU302- FU304 FUSE (4A) REK1082
 ⚠ FU301 (5A) REK1083

• CONVERGENCE BLOCK SEMICONDUCTORS

IC401, IC402 STK392-180
 Q401, Q403 2SA933S
 Q405 2SC1740S
 Q402, Q404 2SC2878
 D402 1SS133

D403- D414 S5688G

COILS AND FILTERS

L401, L402 ATH1107
 L403, L404 ATH1108
 L410 ATH1109

CAPACITORS

C416, C418, C420, C424, C426 CCCSL220J50
 C428 CCCSL220J50
 C433, C435 CEAT331M6R3
 C403, C409 CEHAT472M35
 C413, C414, C421, C422 CKCYB331K50

Mark No. **Description** **Part No.**

A	C429, C430	CKCYB331K50
	C432	CKCYB332K50
	C415, C417, C419, C423, C425	CKCYB681K50
	C427	CKCYB681K50
	C401, C402, C404- C408	CKCYF103Z50
	C410- C412, C434, C436	CKCYF103Z50

RESISTORS

B	R431, R432, R438, R440, R446	RS2MMF121J
	R448	RS2MMF121J
	R415, R423, R433, R435, R441	RS2MMF1R5J
	R443	RS2MMF1R5J
	R413, R414, R437, R439, R445	RS2MMF221J
	R447	RS2MMF221J
	R449, R450	RS3LMFR47J
	Other Resistors	RD1/4PU###J

OTHERS

C	CN405, CN406 SOCKET 15-P	AKP1222
	CN402 ,CN403 4P TOP POST	B4B-EH
	CN401 4P TOP POST	B4B-EH-R
	SCREW	BBZ30P080FCU
	CN404, CN407-CN409 PLUG 19-P	19P-250K-1.25FJNA
	CN410 PLUG 4-P	KM250MA4
	SCREW	PMB30P160FZK

•VM BLOCK SEMICONDUCTORS

D	Q758	2SA1535
	Q751, Q757, Q760, Q762	2SA720A
	Q752, Q755, Q756, Q761, Q763	2SC1318A
	Q759	2SC3944
	D751, D752, D754, D755	S5688G

COILS AND FILTERS

E	L751- L754, L757	ATH1109
	L755, L756	ATX1021

CAPACITORS

F	C756, C771	CEAT101M25
	C761	CEAT1R0M50
	C751	CEAT470M50
	C760, C764	CEHAT220M2C
	C767	CEHAT3R3M2C
	C759, C765, C766	CKCYE103P2H
	C769	CKCYF103Z50
	C752, C757, C772	CKCYF473Z50
	C768	CQMA472J50
	C758	CQMA472K2E

RESISTORS

F	R766	RD1/2MMF100J
	R767	RD1/2MMF152J
	R769, R776	RD1/2PM2R2J
	R757, R758	RD1/4MUF100J
	R753	RD1/4MUF101J
	R768, R781	RD1/4MUF560J
	R752, R764	RS1MMF472J
	R770, R775	RS2MMF271J
	R774	RS3LMF471J
	Other Resistors	RD1/4PU###J

Mark No. **Description** **Part No.**

OTHERS

CN751 PLUG 9-P	KM250MA9
SCREW	752PMZ30P100FZK

• AUDIO POWER BLOCK SEMICONDUCTORS

IC1101	LA4282
Q1108	2SA933S
Q1101, Q1109	2SC1740S
Q1104, Q1107	2SC2878
D1101-D1107	1SS133

CAPACITORS

C1111	CEAT102M50
C1108, C1115	CEAT1R0M50
C1104, C1106	CEAT2R2M50
C1103, C1107	CEAT330M50
C1119	CEAT470M50
C1114, C1117	CEHAT102M35
C1105	CEHAT221M25
C1113, C1118	CFTLA104J50
C1110, C1116	CKCYB102K50
C1109, C1112	CKCYF103Z50

RESISTORS

R1118, R1127	RD1/2PM152J
R1104	RD1/2PM561J
R1117, R1126	RD1/4MUF2R2J
Other Resistors	RD1/4PU###J

OTHERS

ISOLATION SHEET	AEB1359
PLATE SPRING	ANG1569
SCREW	BBZ30P080FCU
CN1101 PLUG 4-P	KM250MA4R

7. ADJUSTMENT

7.1 INTRODUCTION

• IMPORTANT




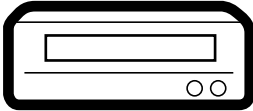
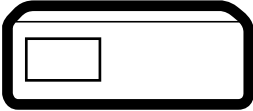
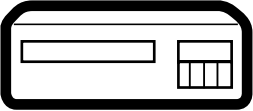

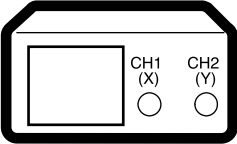

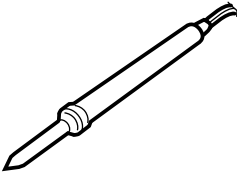
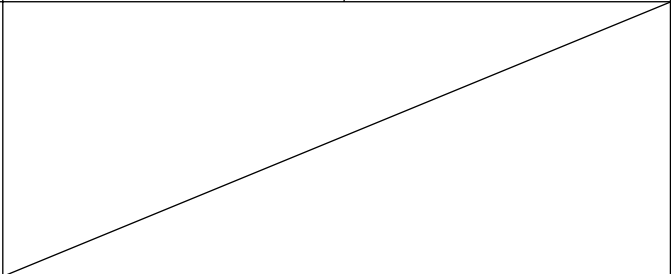
When replacement of the following assemblies are required during repairs, be sure to replace the EEPROMs with the mounted ones in order to retain the adjustment data of the unit and to facilitate adjustment after the replacement of the assemblies.

PC Board	EEPROM	Main Contents of Memory
VIDEO UCOM SERVICE Assy	IC1903 [24LC32(I)P]	Adjustment data, such as W/B and color data, Convergence offset data in FACTORY mode, User data set on the MENU
DIGITAL CONV. Assy	IC1203 [24LC64(I)P]	Convergence adjustment data

Notes:

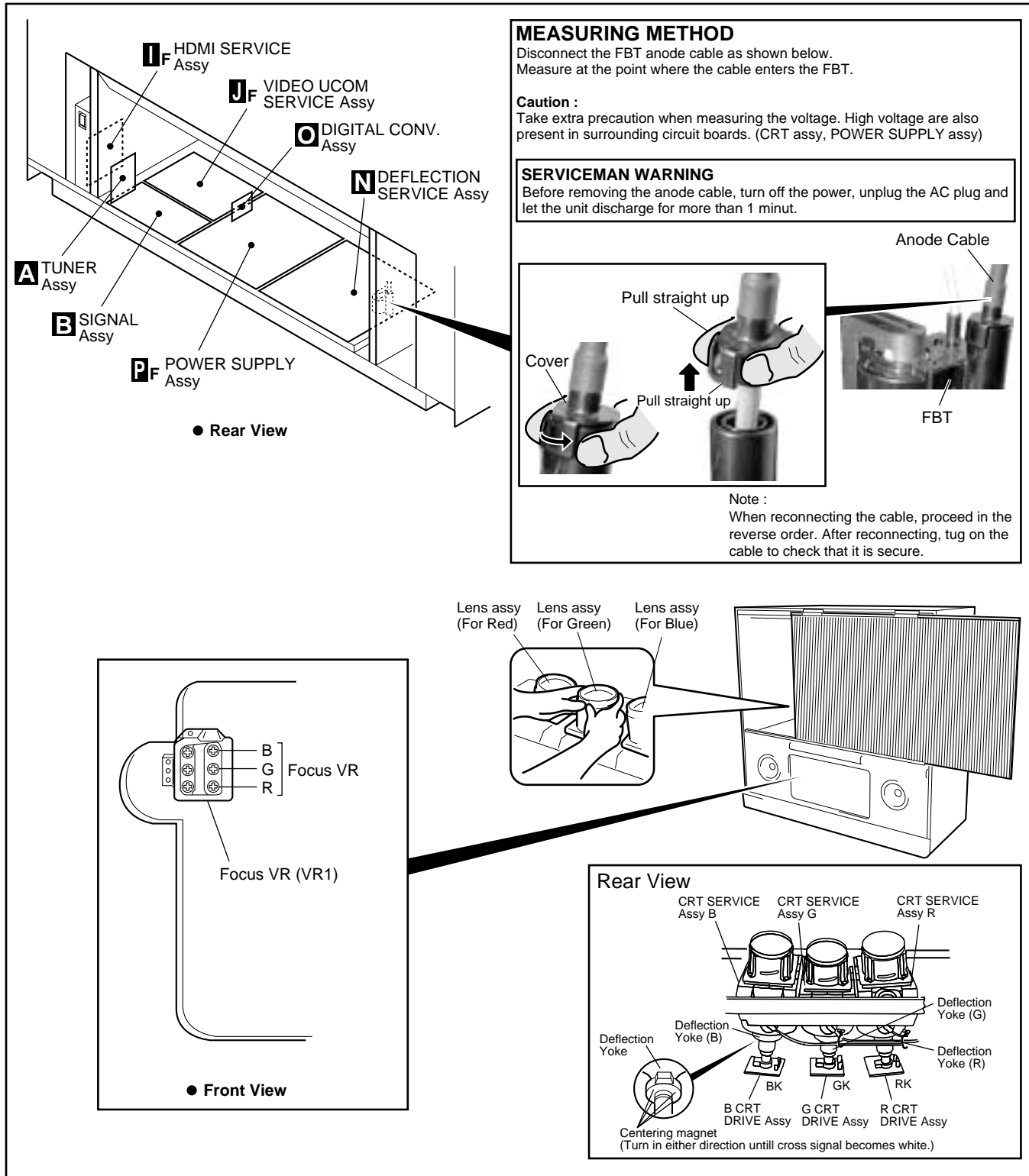
- Even if the EEPROMs are replaced, adjustment may be necessary, depending on the part or assembly to be replaced. For details, see page 93.
- Even if the EEPROMs are replaced, if the EEPROMs are damaged or if their data have been changed from the adjustment data, the status before the failure will not be restored. Check the status of the unit after replacement of the EEPROMs, and readjust if necessary.

7.2 JIGS AND MEASURING INSTRUMENTS

 Remote control unit AXD1485	 ⊖ Screwdriver	 ⊖ Adjustment screwdriver	 Color bar generator
 D. DC Voltmeter	 DVD / LD Player	 Monoscope	 Dual-trace oscilloscope
 For HD Signal generator	 Soldering iron		

7.3 ADJUSTMENT LOCATION AND ITEMS

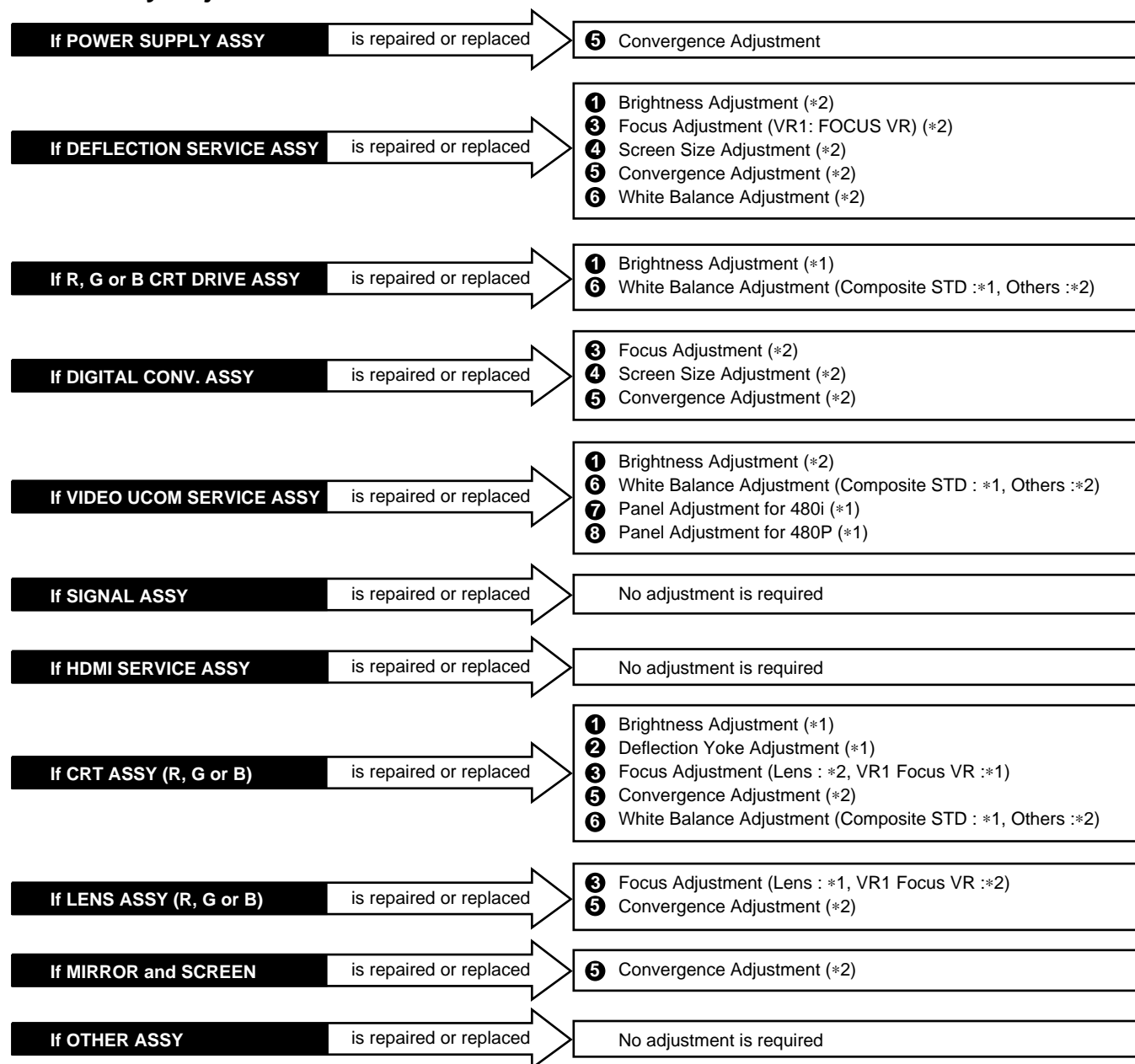
Assembly Adjustment Location



Adjustment Items

- | | |
|------------------------------|-----------------------------|
| ① Brightness Adjustment | ⑤ Convergence Adjustment |
| ② Deflection Yoke Adjustment | ⑥ White Balance Adjustment |
| ③ Focus Adjustment | ⑦ Panel Adjustmen for 480i |
| ④ Screen Size Adjustment | ⑧ Panel Adjustment for 480P |

■ Assembly Adjustment Location Guide



Note :

*1: Readjustment necessary

*2: Turn on the power and confirm the screen. When adjustment deviates, it is readjusted if necessary.

- When the EEPROMs are replaced, check the status of the unit.
- If any IC of the EEPROM is damaged, readjustment of all the items is necessary.
- The necessary adjustment items differ, depending on the assembly or optical part replaced. Check and readjust the adjustment items corresponding to the replaced assembly or part, following adjustment procedures 1 to 8.
Example: When the DIGITAL CONV. Assy is replaced, perform the following:
 3. Focus check/adjustment → 4. Screen size check/adjustment → 5. Convergence check/adjustment

7.4 About flashing of LED

Show the following state by flashing of LED.

1. Specification of red LED

- Standby lighting
- After having shifted from power management operation to normal standby (operation when released the power management by the power off), continue lighting after flashing three times: Repeat 500ms off and 500ms on three times, and continue lighting.
- Relay welding
Repeat three times flashing and once stop: Repeat 100ms on ,100ms off ,100ms on ,100ms off ,100ms on ,100ms off and 1S off.

2. Specification of green LED

- Power on lighting
- During power-saving mode operation (power management)
Flashing: Repeat 2s on and 2s off.

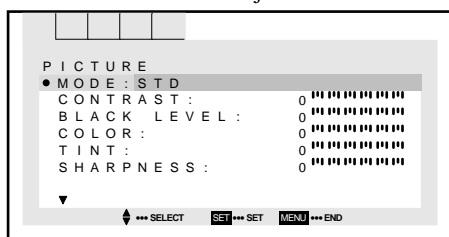
About power management:

When input signal disappears only at the time of INPUT5 and 6, it becomes the power-saving mode.

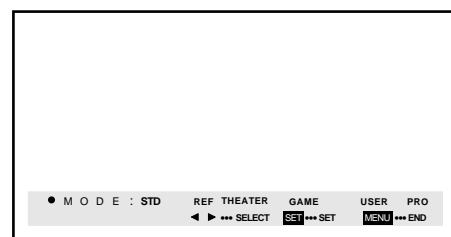
7.5 About the ISF Modes

- The ISF Modes, which enable dealers and installers who are licensed by the Imaging Science Foundation (ISF) to perform ISF picture-quality adjustment, are employed in this model.
- Using dedicated application software distributed to a dealer who has contracted with PUSA (the sales company,) you can perform picture-quality adjustment through the RS-232C port.
- The data for adjusted picture quality will be stored using the ISF Modes (ISF-DAY and ISF-NIGHT).
Each input (TV and INPUTs 1-6) can have two ISF modes (ISF-DAY and ISF-NIGHT), but only inputs and modes adjusted by a qualified dealer will be displayed. (For example, if only ISF-DAY of INPUT 1 and ISF-NIGHT of INPUT 2 have been adjusted, ISF-DAY Mode is added in the PICTURE Mode for INPUT 1, and ISF-NIGHT Mode is added in the PICTURE Mode for INPUT 2.)
- With the ISF Modes, picture-quality parameters cannot be adjusted, except those for Pure Cinema, 3D Y/C LEVEL, and 3D NR LEVEL.
- If the Video Microcomputer Assy for an ISF-adjusted product is to be replaced, be sure to also replace the EEPROM (IC1903,24LC32[I]P).
The indications for the PICTURE Mode in the menu after adjustment are then changed.

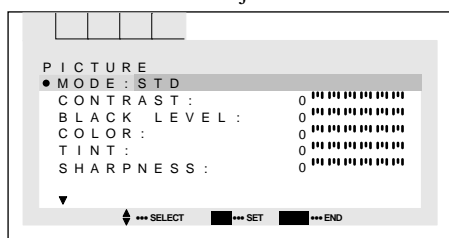
Before ISF MODE adjustment



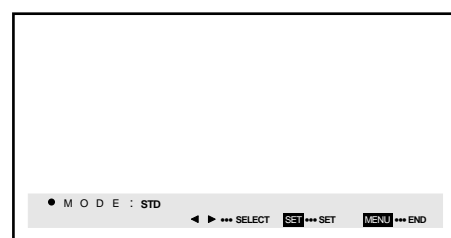
SE



After ISF MODE adjustment



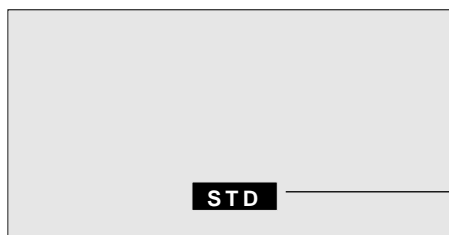
SE



The modes change cyclically.



The modes also change cyclically when the AV SELECTION key on the remote control unit is pressed repeatedly.



If an ISF Mode is selected, the following is displayed when the DISPLAY key is pressed.



7.6 FACTORY ADJ MODE

Start

Start adjusting

1st FAC

Select 1st FACTORY ADJ mode, then adjust.

Factory Adjustment Mode

Select 1st FACTORY ADJ Mode

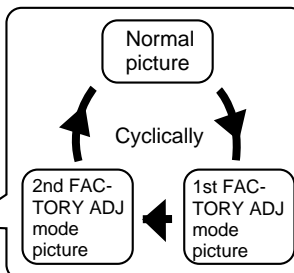
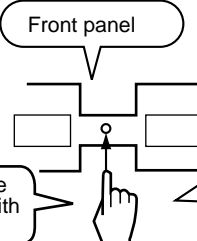
Selecting the mode for adjustment operations.

Start



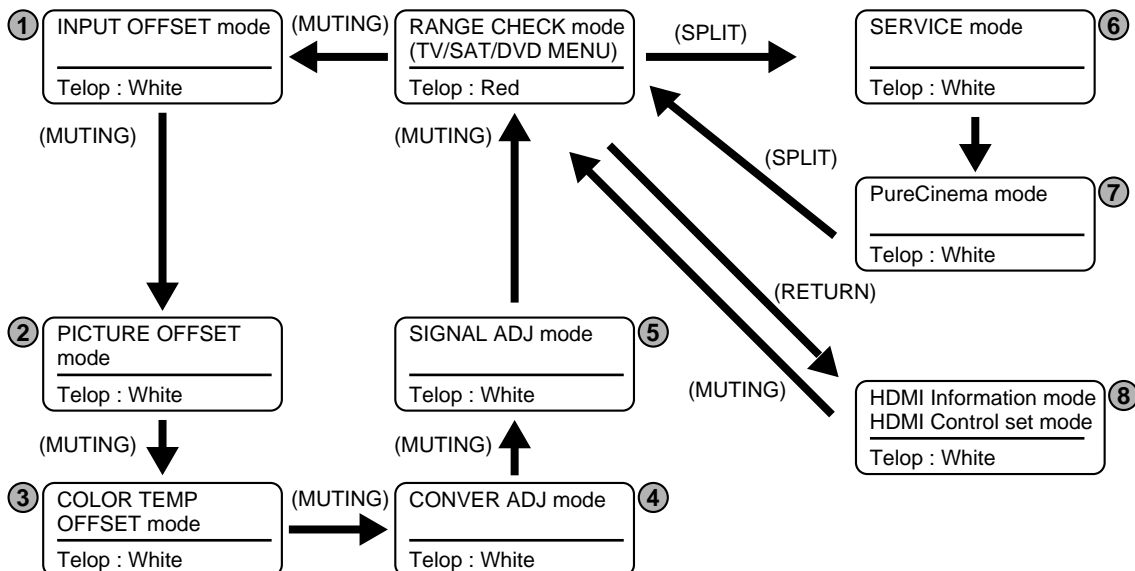
INPUT1 position

Press the switch with thin rod.



The 2nd FACTORY ADJ mode is not used in the adjustment.

- To enter FACTORY mode, use the key(s) on the remote control unit or main unit. To release FACTORY mode, use the key(s) of the remote control unit or the main unit, or turn the power off. If the unit remains in FACTORY mode without any operation for 8 minutes, it will be automatically released.
- In FACTORY mode, data for the picture and audio qualities are standard, and the FLESH TONE setting is always off.
- When the unit enters FACTORY mode, settings such as audio muting, MENU, and SPLIT (two split-screens) are released.
- The Convergence data which user adjusted are within the FACTORY mode. Clear the convergence data by releasing the FACTORY mode after it is further within the MANUAL CONVER mode or OFFSET CONVER mode.
- When the unit exits FACTORY mode, the TV/CATV mode becomes AIR (settings of ANT and CH are those last stored in memory).
- CONVER. OSD (cross hatch) can be turned on and off cyclically by using the YELLOW key only during CONVER mode (MANUAL, AUTO, OFFSET adjustments).
(Default: The cross hatch is on only in CONVER. mode.)



① INPUT OFFSET Mode

INPUT OFFSET MODE

1. STD
2. COMP (15kHz)
3. COMP (31kHz)
4. COMP (33kHz)
5. COMP (45kHz)
6. PURE RGB
7. PURE RGB (HDMI)
8. TV

Adjustment for service is only

1. STD, 4. COMP (33kHz) and 6. PURE RGB.

	INPUT OFFSET Mode	Key (s) on the Remote Control Unit
1	STD	▼ (DOWN)
4	COMP (33kHz)	PinP CH+, SUB CH+
6	PURE RGB	CH ENTER



(MUTING)

STD		
F1	COLOR	24

Telop : Blue

② PICTURE OFFSET Mode

PICTURE OFFSET MODE

1. RTM
2. GAME
3. MODULE
4. RGB- YCbCr: 33K
5. RGB- YCbCr: 31K
6. HDMI- Y: 33K
7. HDMI- Y: 31K

Do not perform the adjustment for service.

③ COLOR TEMP OFFSET Mode

COLOR TEMP OFFSET MODE

1. NEWS
2. LIVE
3. FILM
4. B&W
5. FILM FOR RTM

Do not perform the adjustment for service.

④ CONVER ADJUST Mode

CONVER ADJUST MODE

1. SIZE
2. OFFSET CONVER MODE1
3. OFFSET CONVER MODE2
4. OFFSET CONVER MODE3
5. FINE CONVER
6. AUTO CONVER
7. CONVER STATIC
8. HDMI H.PHA ADJ

Adjustment for service is items of 1, 4 and 5.

	CONVER ADJ Mode	Key (s) on the Remote Control Unit
1	SIZE	ANT
4	OFFSET CONVER MODE3	• (DOT)
5	FINE CONVER	SET



(MUTING)

ADJUST	H SIZE	
F1		-20

Telop : White

• Mode changes cyclically as follows when uses the • (DOT) key.

OFFSET CONVER MODE1 → OFFSET CONVER MODE2 → OFFSET CONVER MODE3

For Adjustment of this item, screen mode has two modes as FULL and HD.

Screen mode changes by the "SCREEN" key cyclically.

FULL ↔ HD

⑤ SIGNAL ADJ Mode

SIGNAL ADJ MODE

1. 480I PANEL
2. 480P PANEL
3. SIGNAL
4. TUNER TEST MODE
5. AUTO ACL
6. HDMI LPF ADJ

Adjustment for service is items of 1, 2 and 5.

	SIGNAL ADJ Mode	Key (s) on the Remote Control Unit
1	480I PANEL	CH RET
2	480P PANEL	► (RIGHT)
5	AUTO ACL	PinP CH-, SUB CH-



(MUTING)

ADJUSTMENT	480I PANEL	
	BRIGHT	-10

Telop : Yellow

⑥ SERVICE Mode

SERVICE MODE

1. TIME SPACE FILTER
2. Y - MOTION ADAPTATION
3. C - MOTION ADAPTATION
4. AFC SYSTEM
5. IP SETTING
6. FREQ JUDGMENT ADJ

Do not perform the adjustment for service.

⑦ PureCinema Mode

PureCinema MODE

1. 2 - 3 COMPONENT ADJ
2. 2 - 3 S-VIDEO ADJ
3. 2 - 3 COMPOSITE ADJ
4. 2 - 2 COMPONENT ADJ
5. 2 - 2 S-VIDEO ADJ
6. 2 - 2 COMPOSITE ADJ

Do not perform the adjustment for service.

⑧ HDMI Information mode HDMI Control set mode

HDMI INFORMATION MODE

- 1 AVI Info
- 2 SPD Info
- 3 Audio Info
- 4 MS Info
- 5 Video Status
- 6 Audio Status

HDMI CONTROL SET MODE

- 7 Int Mask SET
- 8 General Control SET
- 9 HDMI EDID (Audio) SET

Do not perform the adjustment for service.

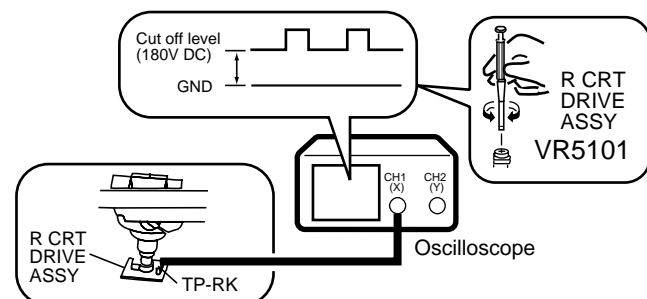
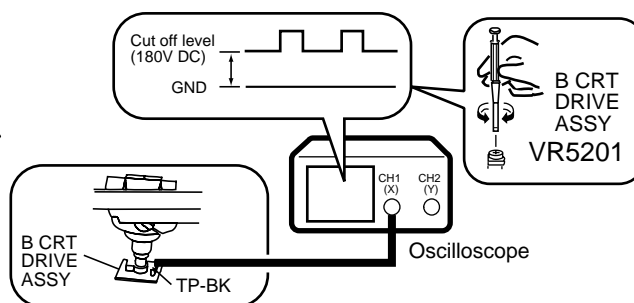
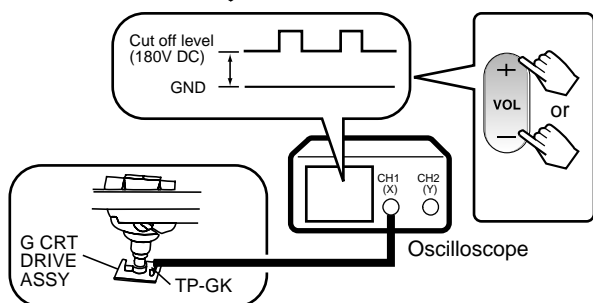
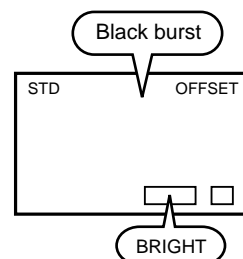
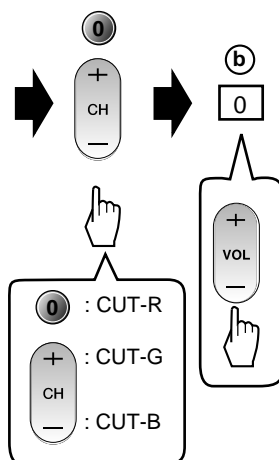
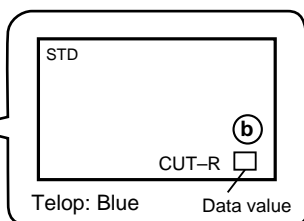
7.7 ADJUSTMENT

1 Brightness Adjustment

Start

1st FAC

Input signal : Black Burst (INPUT 1)



When the DEFLECTION SERVICE Assy or VIDEO UCOM SERVICE Assy is replaced, check the following to confirm if the above adjustment is necessary:

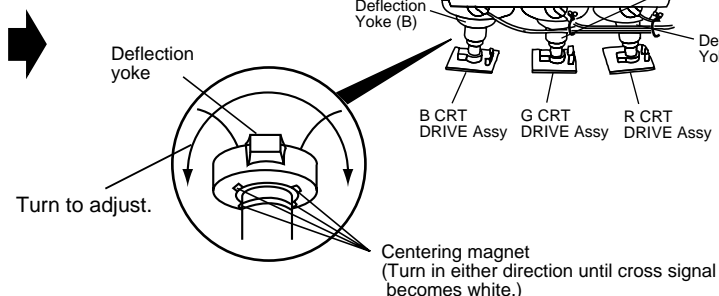
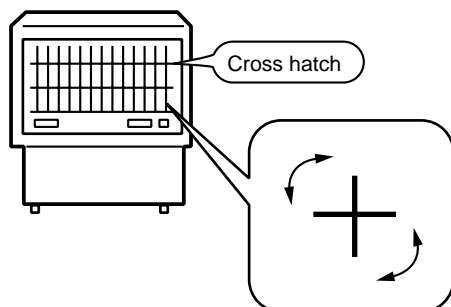
- (1) Make a note of the data of CUT R, CUT G, CUT B, and BRIGHT. (1st FAC) (▼ DOWN)
- (2) Input "0" as parameters for (1) and check TP-RK, TP-GK and TP-BK of the CRT DRIVE assembly. If the levels are within $180\text{ V} \pm 5\text{ V}$, the adjustment is not necessary. Input the noted data. If the levels are not within the above level, proceed with the above adjustment.

2 Deflection Yoke Adjustment

2 -1 Deflection Yoke Lean Adjustment

Start

- Input a stable signal (e.g. from an DVD / LD player or SG) to the INPUT 1 connector.
- MENU → SETUP → CONVERGENCE
→ ADJUSTMENT FOR 480P → ADJ MULTI-POINT
- The cross hatch disappears if there is no operation with the remote control unit for about 8 minutes. If the cross hatch disappears, repeat the above operation with the remote control unit or main unit key.

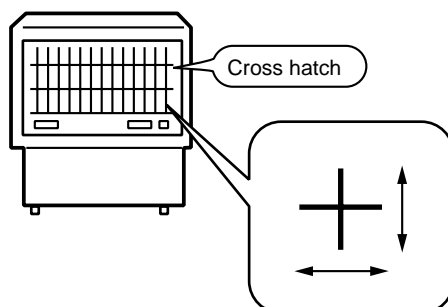


- Turn the deflection yoke of the replaced CRT so that the cross hatch of the color corresponding to the replaced CRT converges with that of the CRTs not replaced.
- When a CRT is replaced, check the position of the VM (Velocity Modulation) yoke.

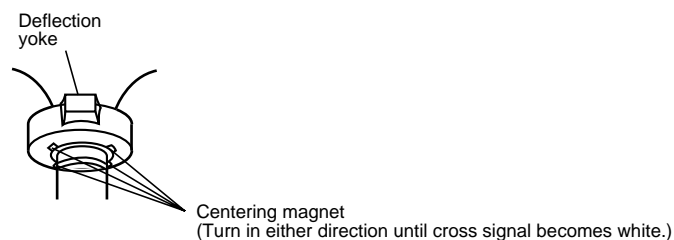


2 -2 Screen Center Adjustment

Start



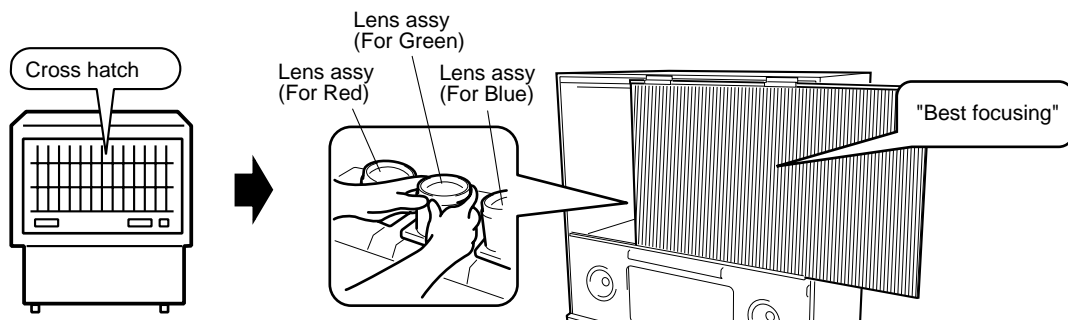
- Move the centering magnet of the deflection yoke for the replaced color so that the horizontal and vertical lines at the center of the screen align with the lines for a color not replaced.
- Apply an adhesive between the neck part of CRT and centering magnet so that the centering magnet of the deflection yoke does not move.



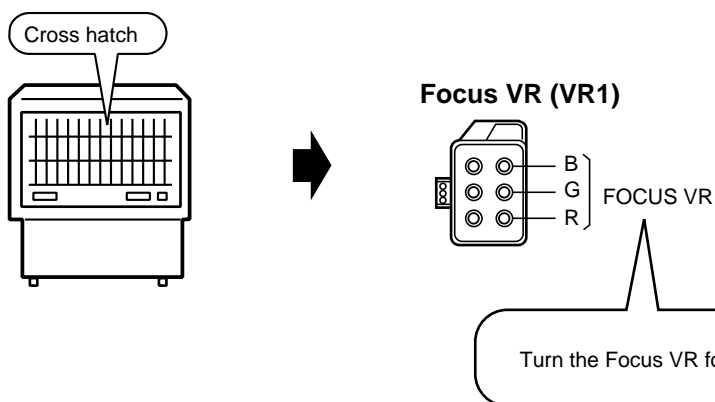
3 Focus Adjustment

3 -1 Focus Adjustment of Lens Assy

Start



3 -2 Focus VR Adjustment



Perform lens focus adjustment after the unit has been warmed up (some time after turning the unit on with the Power switch).

Set the output to 480P

Adjust the focus of each lens so that :

For Green :

- the vertical and horizontal lines at the center become their thinnest.
- the scanning lines at the center are their strongest.
- the red halo faintly appears at the center.

For Red :

- the vertical and horizontal lines at the center become their thinnest.
- the scanning lines at the center are their strongest.

For Blue :

- the vertical and horizontal lines at the center become their thinnest.
- the green halo disappears, and the blue halo begins to appear.

Note on tightening the thumbscrew after adjustment :

Observe the crosshatch signals on the screen while tightening the thumbscrew, to check that the lens does not rotate with the thumbscrew.

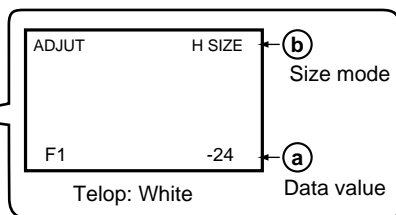
4 Screen Size Adjustment

Check if both vertical and horizontal sizes are within 91% \pm 2%. If they are not, perform the size adjustment as follows:

4 -1 Size Mode

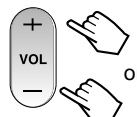
Start

1st FAC



Note :
Screen mode : FULL

(a) Data value



-128 to 127
(even data only)

- Mode for roughly adjusting the horizontal and vertical sizes of the main deflection.
- In this mode, the color is green only, screen size is FULL and the contrast is +10.
- The above settings are cleared when this mode is exited.

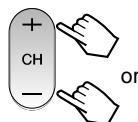
(b) Size mode

1 2

- 1 : H Size (15 kHz)
- 2 : V Size

3 6 7 9 0

- 3 : H PHA (15K)
- 6 : H SIZE (HD)
(fixed value "C" can be varied)
- 7 : V SIZE (HD)
(fixed value "I" can be varied)
- 9 : H PHA (31K RGB)
- 0 : H PHA (33K RGB)
- CH + : H PHA (31kHz)
- CH - : H PHA (33kHz)



Note :

- The adjustment is unnecessary for "C" and "I" so that is set in factory shipment by the most suitable value. However, please adjust it when a screen is missed when displayed the HD source on the screen.
- For H PHA, refer to the section "• Reference."

Table on H SIZE and V SIZE data

Picture Quality Mode	H SIZE	V SIZE
FULL	A	B
HD	A+C	B+I

A, B : Adjustment values
C, I : Fixed values
A+C : Addition of A and C
B+I : Addition of B and I

- Perform the H SIZE and V SIZE adjustments only in FULL mode (NTSC MONOSCOPE signal input).
- Release the FACTORY mode, then change the screen mode and confirm that the picture is not missing.

The factory-preset values are as follows:

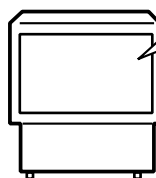
Key No.	Adjustment Value
1 : H SIZE (15K)	Approx. -36 \pm 30
2 : V SIZE	Approx. +01 \pm 10
6 : H SIZE (HD)	Approx. +27 \pm 30
7 : V SIZE (HD)	Approx. +06 \pm 10

Note: Varies depending on the factory-preset value.

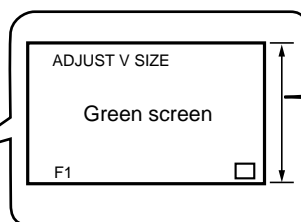
4 -2 Vertical Size Adjustment

Start

1st FAC

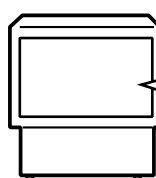
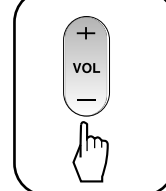


INPUT 1: Monoscope



Note :
Screen mode : FULL

91% \pm 2%



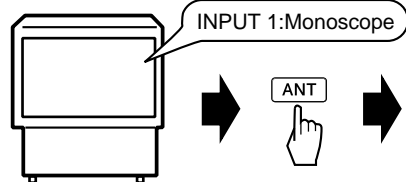
INPUT TV
General
broadcasting

Adjust the size so that the picture is completely displayed on the screen.

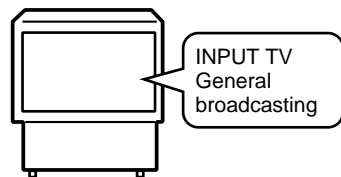
4 -3 Horizontal Size Adjustment

Start

1st FAC



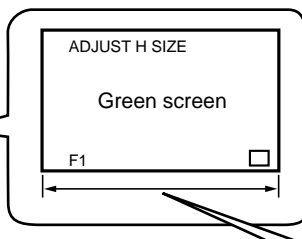
or



INPUT TV
General
broadcasting

Adjust the size so that the picture is completely
displayed on the screen.

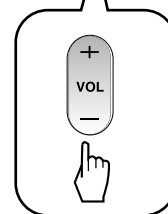
Note :
Screen mode : FULL



Note :

- After the V. SIZE adjustment, enter the H. SIZE adjustment by pressing "1" key.
- After the H. SIZE adjustment, check that V. SIZE is $91\pm 2\%$. If not, readjust the V. SIZE.

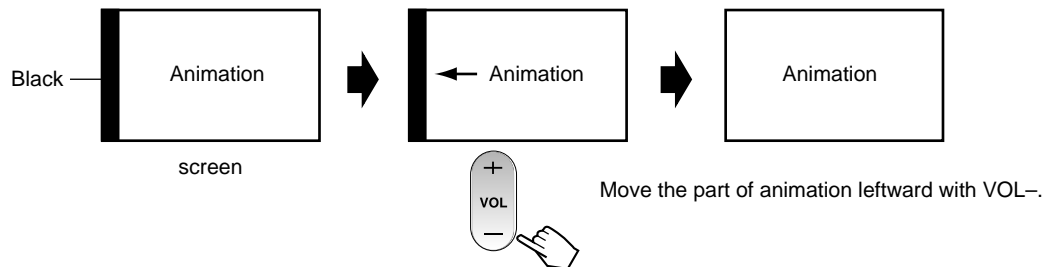
$91\pm 2\%$



• Reference

The H PHASE adjustment is required if the left or right part of the screen becomes black, as illustrated below, depending on the format of the input signal (Ex. component 31.5 kHz, RGB 33K etc.).

Ex. Component 31K



• About H. PHASE

In principle, adjustment of the data for the H. PHASE is not required.

Check whether the H. PHASE data are the factory-preset values, as indicated below:

Key No.	Adjustment Value
3 : H PHA (15K)	8
CH+ : H PHA (31K COMP)	10
CH- : H PHA (33K COMP)	10
9 : H PHA (31K RGB)	15
0 : H PHA (33K RGB)	11

15K : CONPOSITE, S COMPONENT (480i)
31K : COMPONENT (480P)
33K : COMPONENT (1080i)
31K RGB : RGB (480P)
33K RGB : RGB (1080i)

The screen moves to the right or the left if the above data are in variance. (See the above figures.)

Note :

H PHASE is set in factory shipment by the most suitable value. But, there is the case that screen is missed as an upper figure occurs by the signal format of other apparatus to be connected to.

A screen can be improved as the following by the readjustment. However, attention is necessary because in convenience may occur when connected to another apparatus.

5 CONVERGENCE ADJUSTMENT

1. Procedures

- When replacing the DIGITAL CONV. Assy, replace the EEPROM of new DIGITAL CONV. Assy with the EEPROM of old DIGITAL CONV. Assy.
- Check the initial data for the convergence adjustment.
- Perform the coarse adjustment for the green to roughly correct distortion of the green.
- Fine-adjust the green to eliminate any distortion. The green becomes the standard for the red and the blue.
If necessary, repeat steps 3 and 4. Green adjustment is completed.
- Perform the coarse adjustment for the red by roughly converging the red with the green.
- Fine-adjust the red until the red is completely converging with the green.
If necessary, repeat steps 5 and 6. Red adjustment is completed.
- Perform the coarse adjustment for the blue by roughly converging the blue with the green.
- Fine-adjust the blue until the blue is completely converging with the green.
If necessary, repeat steps 7 and 8. Blue adjustment is completed.
- Display the green, red, and blue colors at the same time to check the convergence. Readjust the convergence if necessary.

2. Prior to Adjustment

There are five screen modes, but convergence adjustment is required for two mode. For adjustment, input the following video signal:

Table 1 Input signal

Screen Mode	Input Signal
1. FULL (FULL, 4:3 NORMAL) (ZOOM) (CINEMA WIDE) (NATURAL WIDE)	NTSC (480i) signal
2. HD (HD/DTV)	HD/DTV (1080i) signal

NTSC : Stable signal source, such as an SG or an LD/DVD player.

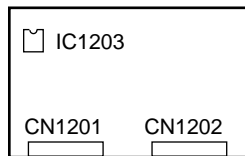
HD : Stable signal source, such as an HD SG or a DTV tuner (SH-D09, etc.)

When CRTs are replaced or when the deflection yoke is moved, perform the deflection yoke adjustment, horizontal and vertical size adjustments, and centering magnet adjustments before the convergence adjustment. (See Pages 157, 159 and 160.)

3. Convergence Adjustment

3.1 Replacement of the EEPROMs Inside the DIGITAL CONV. Assy

IC1203: 24LC64(I)P



DIGITAL CONV. ASSY

The data stored in the EEPROMs are as follows:

IC1203

OFFSET CONVER. MODE 1 (DFH, DFV)

OFFSET CONVER. MODE 3

Factory-preset values for convergence

User-adjusted values for convergence (CENTER, MULTI-POINT)

IC1903 (VIDEO UCOM SERVICE Assy)

OFFSET CONVER. MODE 1 (except DFH and DFV)

OFFSET CONVER. MODE 2

3.2 Confirmation of Convergence Data

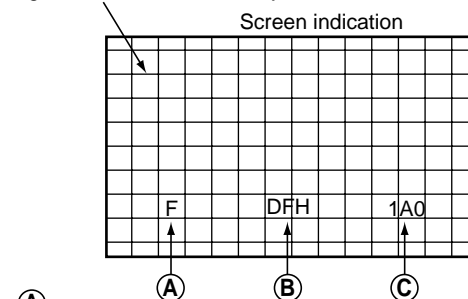
The convergence coarse adjustment modes change cyclically, as shown below, with each press of the INPUT4 key in FACTORY mode:

Convergence coarse adjustment

- DOT key (pressed once) : OFFSET CONVER. MODE 1
- DOT key (pressed twice) : OFFSET CONVER. MODE 2
- DOT key (pressed three times) : OFFSET CONVER. MODE 3
- Cyclical change

Check whether the data of MODE 1 and MODE 2 are as shown in Table 2.

The cross-hatch signal is generated inside the unit, and is automatically displayed in OFFSET CONVER. mode and MANUAL CONVERGENCE mode. You can turn on and off the cross-hatch signal with the YELLOW key.



Screen mode:

F : FULL H : HD

The Screen modes change cyclically with each press of the SCREEN mode key.

(B)

Adjustment items can be selected with the numeric keys. See Table 2.

(C)

Adjustment data:

MAX 1FF
100
001
CNT • 000
3FF
2FF
MIN 200

Data can be adjusted with the VOL+ and VOL- keys.

VIDEO UCOM SERVICE ASSY

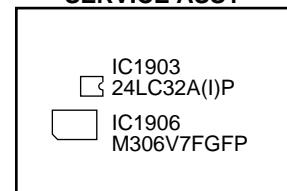


Table 2 OFFSET CONVER DATA

OFFSET CONVER MODE 1			
Numeric Key	Adjustment Item	Screen Mode	
		FULL	HD FULL
1	DFH	1A0	1A0
2	DFV	06A	06A
3	DF1	00F	00F
4	DF2	000	000
5	HPP	14C	14A
6	HPW	00B	00C
7	HTP	029	02C
8	VTP	034	009

OFFSET CONVER MODE 2			
Numeric Key	Adjustment Item	Screen Mode	
		FULL	HD FULL
1	V1D	022	012
2	V1C	020	01E
3	V10	000	000
4	VFP	003	03C
5	HFP	120	120
6	H1R	001	001
7	HCP	00F	00F
8	H10	01A	016

The above offset convergence values are common to the PRO-530HD, PRO-630HD and PRO-730HD.

If the offset convergence values are as indicated in Table 2, proceed to 3.3. If the values are not the same, adjust the values with the numeric keys and VOL +/- keys.

Example:

To check DFI in FULL mode of OFFSET CONVER. MODE 1

- Enter the FACTORY mode.
- Enter the OFFSET CONVER. MODE 1 by pressing the DOT key once.
- Enter the FULL screen mode by pressing the SCREEN mode key once. (When the unit enters FACTORY mode, the screen mode automatically becomes FULL.)
- Check the indication on the screen by pressing the numeric key 3.

Indication at the bottom of the screen : F DFI 00F

If the adjustment value is 00F, adjustment is not required.

If the adjustment value is other than 00F, adjust with the VOL+ or VOL- key so that the value becomes 00F.

3.3 Coarse Adjustment of the Green

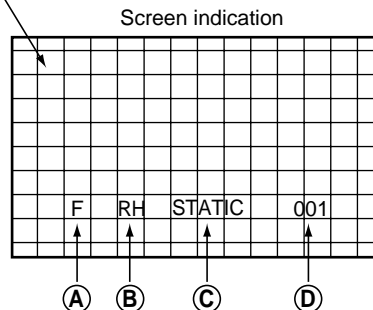
(Proceed with 3.3 and afterwards when the DIGITAL CONV. Assy is not replaced.)

Select adjustment items (STATIC and SIZE of vertical and horizontal lines, etc.) for each GH and GV, and adjust to roughly eliminate distortion. (For GV, peripheral pin distortion adjustment is necessary.)

Press the DOT key three times to enter OFFSET CONVER. MODE 3.

Press the SCREEN mode key and proceed with the adjustment for each screen mode.

The cross-hatch signal is generated inside the unit, and is automatically displayed in OFFSET CONVER. mode and MANUAL CONVERGENCE mode. You can turn on and off the cross-hatch signal with the YELLOW key.



(A)

Screen mode:

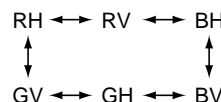
F : FULL

H : HD

The Screen modes change cyclically with each press of the SCREEN mode key.

(B)

Cyclically changes with the CH+ or CH- key as follows:



(C)

Adjustment items can be selected with the numeric keys. See Table below.

• Waveforms adjustable in the coarse adjustment of the green

Numeric Key	GH	GV
0	STATIC	STATIC
1	SKEW	SKEW
4	KEY	KEY
6	PIN	PIN
7	LIN	LIN
8	SIZE	SIZE

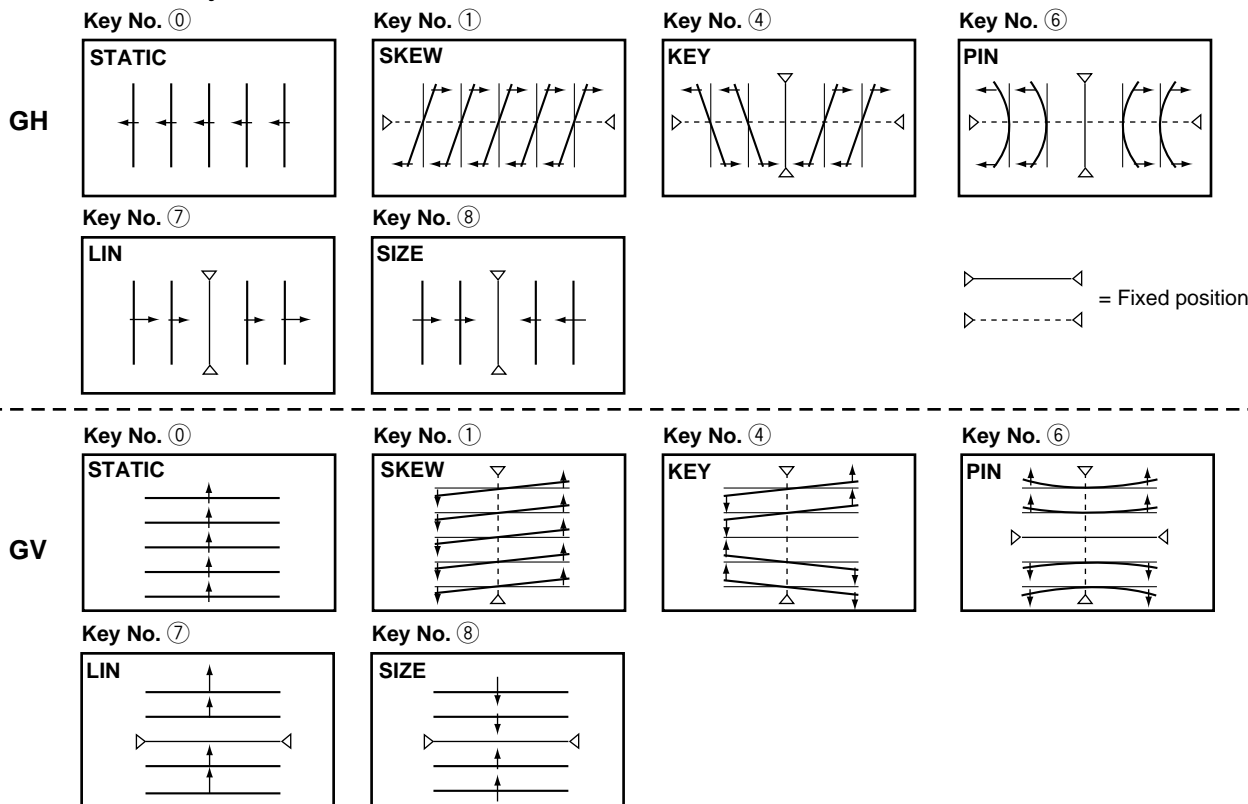
(D)

Adjustment data:

MAX 1FF
 100
 001
 CNT • 000
 3FF
 2FF
 MIN 200

Data can be adjusted with the VOL+ and VOL- keys.

• Pattern for each adjustment item



Note 1: When the Green CRT is replaced, or when the deflection yoke for the green is replaced, prior to the convergence adjustment, tune the center of the image to the center of the screen by turning the centering magnet.

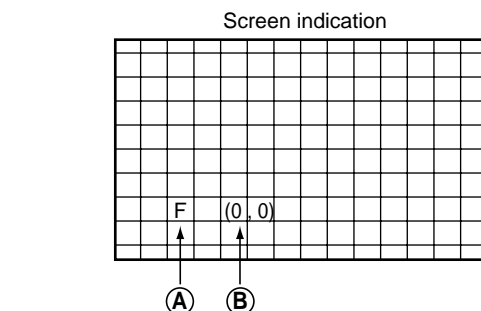
Note 2: When the DEFLECTION SERVICE Assy or DIGITAL CONV. Assy is replaced, make coarse adjustment as shown in 3.3 above.

3.4 Fine-adjustment of the Green

Enter MANUAL CONVERGENCE mode by pressing the SET/ENTER key, and make adjustments. Repeatedly make the coarse adjustment as shown in 3.3 if necessary. Proceed with the adjustment for each screen mode. Adjusted values for the green become the standard for the red and the blue.

3.4.1

In MANUAL CONVERGENCE mode entered by pressing the SET/ENTER key, the display becomes as shown below:



(A)

Screen mode:

F : FULL
H : HD

The Screen modes change cyclically with each press of the SCREEN mode key.

(B)

Coordinates where the cursor (adjustment point) is located

There are 72 adjustment points (8,9) on the coordinates for FULL and HD modes, but the coordinates actually used for adjustment are as follows (the coordinates outside the ranges indicated below are outside the screen, and adjustment will not have any effect on the screen):

FULL : (0, 1) to (7, 9)

HD : (0, 1) to (7, 9)

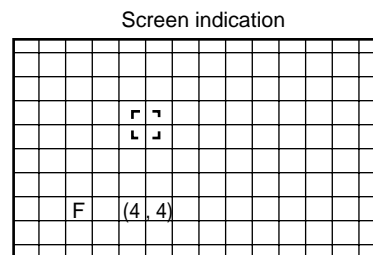
(X, Y): X=abscissa, Y=ordinate

Some coordinates may be outside the screen and invisible.

The point at coordinates (0, 0) is at the upper left of the screen.

3.4.2

Move the cursor to a point to be adjusted with the cursor move keys.

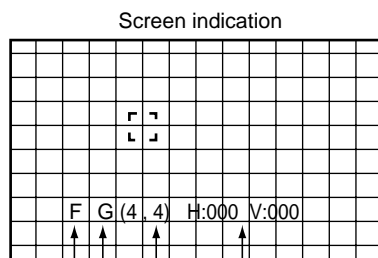


Note: The actual shape of the cursor is " [] ".

The position of the cursor in this figure is different from the actual position on the screen.

3.4.3

Press the SET/ENTER key when the point to be adjusted is determined.



Screen mode Coordinates where the adjustment point is located

(A)

Color to be adjusted:

G: GREEN, R: RED, B: BLUE

To change colors, use the CH+ or CH- key.

The colors change cyclically as follows:

With CH+ : R → B → G → R

With CH- : R → G → B → R

(B)

H : *** Adjustment data in the horizontal direction

V : *** Adjustment data in the vertical direction

(***= hexadecimal number)

Data	MAX	1FF
		100
		001
		000
CNT	•	000
		3FF
		2FF
		200
	MIN	

For adjustment, move the Line to the desired direction with the cursor keys.

To move the Horizontal Line upward, press the "▲" key.

(The value decreases.)

To move the Horizontal Line downward, press the "▼" key.

(The value increases.)

To move the Vertical Line to the left, press the "◀" key.

(The value decreases.)

To move the Vertical Line to the right, press the "▶" key.

(The value increases.)

- To select one color, use the RED key for the red, GREEN key for the green, BLUE key for the blue. Pressing this key toggles color muting on or off.
- To mute all the colors, press the DISPLAY key. To release muting, press the RED, GREEN or BLUE key.
- To erase the cross hatch, press the YELLOW key. Pressing this key toggles between display of the cross hatch screen and the input screen.
- To change the brightness of the input screen, use the VOL+ or VOL- key. The brightness increases with the VOL+ key (CONTRAST +10) and decreases with the VOL- key (CONTRAST -40). (The brightness can be changed only in Fine-adjustment mode. The brightness of the cross hatch screen cannot be changed.)

3.4.4

When adjustment of the selected point is finished, press the SET/ENTER key, then adjust the other adjustment points by repeating 3.4.1 to 3.4.4.

3.4.5

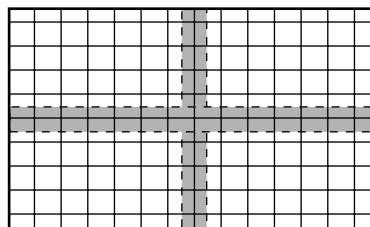
Make the adjustment for the green in each screen mode, and use the green as the standard screen for the red and the blue. To change screen modes, use the SCREEN mode key.

Note: Some coordinates for adjustment points are located outside the screen. Be sure not to make adjustments on those points, because adjustment of those coordinates will have little effect on the screen.

● Adjustment Technique

1st step

Adjust so that the vertical and horizontal lines forming a cross at the center of the screen become straight. Check also the screen size and the linearity of the horizontal and vertical lines.



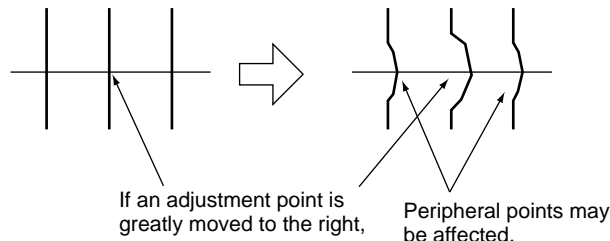
- See "3.3 Coarse adjustment of the green."

Adjust GH STATIC, SKEW and SIZE, and GV STATIC, SKEW, PIN and SIZE to correct the screen location, tilt, screen information volume, and peripheral pin distortion.

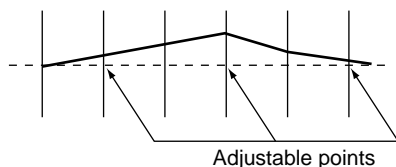
- See "3.4 Fine-adjustment of the green."

Fine-adjust the linearity of the vertical and horizontal lines forming a cross at the center of the screen.

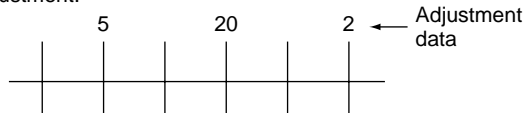
Note: In principle, only the selected point is changed in MANUAL CONVER. mode. However, as the adjusted data (amount of adjustment) increase, peripheral points may be affected. So be sure not to greatly change the adjustment data of one point, but change peripheral points at the same time. See the examples below.



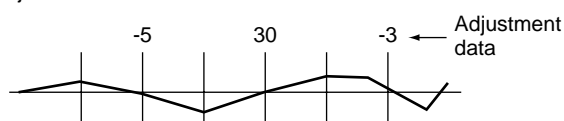
In a case of an error in convergence:



Good adjustment:

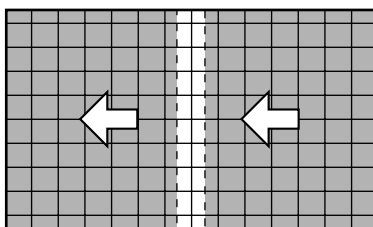


Bad adjustment:



2nd step

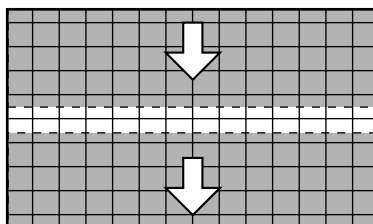
Adjust so that the vertical lines become straight, taking care to preserve proper screen information volume and the linearity. Adjust the right half of the screen first, then the left half. (See 3.4.)



Right half : Adjust from the edge toward the center.
Left half : Adjust from the center toward the edge.

3rd step

Adjust so that the horizontal lines become straight. Adjust the upper half of the screen first, then the lower half. (See 3.4.)



Upper half : Adjust from the edge toward the center.
Lower half : Adjust from the center toward the edge.

4th step

Repeat 2nd and 3rd steps to take total balance. Then the adjustment for the green is completed.

To return from the fine adjustment mode to the coarse adjustment mode, press the MENU key once, then the DOT key.

Note: When the MENU key is pressed to quit MANUAL CONVERGENCE mode, the display will be unstable for several seconds. This is because the adjustment data are being written to the EEPROMs, and is not a malfunction. Do not perform any operation (power on/off, or pressing keys on the remote control unit or on the main unit, etc.) during this period, because doing so may affect your adjustment data.

3.5 Coarse Adjustment of the Red

After the green adjustment is completed, quit MANUAL CONVERGENCE mode by pressing the MENU or MUTING key, then press the DOT key three times to enter OFFSET CONVER. MODE 3.

Select adjustment items for RH and RV, and roughly correct distortion to converge with the green. Adjustment is required for each screen mode

For adjustable items of the red and the blue, see the following table.

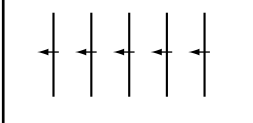
Numeric Key	RH	RV	BH	BV
0	STATIC	STATIC	STATIC	STATIC
1	SKEW	SKEW	SKEW	SKEW
4		KEY		KEY
5	SUBPIN		SUBPIN	
6		PIN		PIN
7	LIN	LIN	LIN	LIN
8	SIZE	SIZE	SIZE	SIZE

• Pattern for each adjustment item

RH
BH

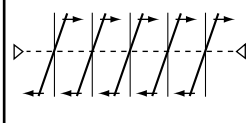
Key No. ①

STATIC



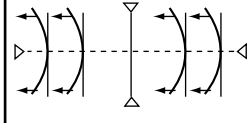
Key No. ②

SKEW



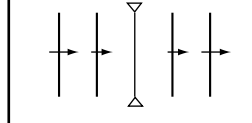
Key No. ⑤

SUB PIN



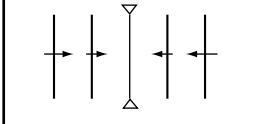
Key No. ⑦

LIN



Key No. ⑧

SIZE

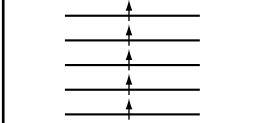


— = Fixed position
- - - = Fixed position

RV
BV

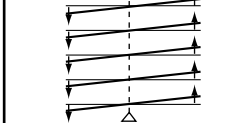
Key No. ③

STATIC



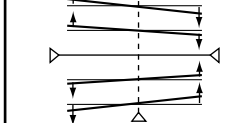
Key No. ④

SKEW



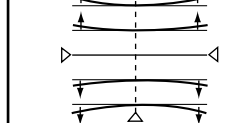
Key No. ④

KEY



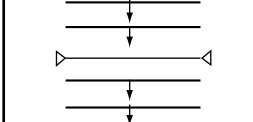
Key No. ⑥

PIN



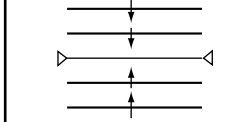
Key No. ⑦

LIN



Key No. ⑧

SIZE



Note 1: When the red CRT is replaced, or when the deflection yoke for the red is replaced, prior to adjustment, tune the center of the image to the center of the screen by turning the centering magnet.

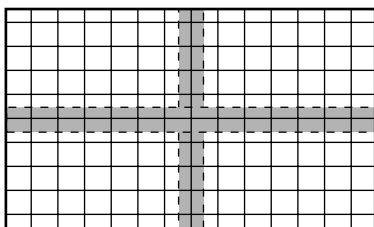
Note 2: When the DEFLECTION SERVICE Assy or DIGITAL CONV. Assy is replaced, make coarse adjustment as shown in 3.5 above.

3.6 Fine-adjustment of the Red

To fine-adjust the red, press the SET/ENTER key to enter MANUAL CONVERGENCE mode. Repeat the coarse adjustment described in "3.5 Coarse Adjustment of the Red" if necessary. Make adjustment for each SCREEN mode, and eliminate distortion to converge with the green.

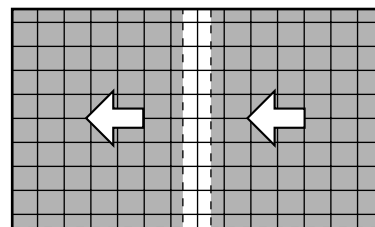
3.6.1

Press the SET/ENTER key to enter MANUAL CONVERGENCE mode, and make adjustment in the same manner as with the green. First, adjust the vertical and horizontal the red lines at the center of the screen so that they converge with the green center lines.



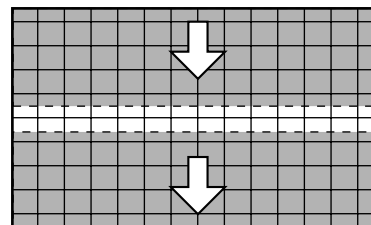
3.6.2

Adjust the red vertical lines so that they converge with the green vertical lines. Proceed to adjustment of the right half of the screen, then the left half. Adjustment should be done from the part where convergence is greatly dislocated.



3.6.3

Adjust the red horizontal lines so that they converge with the green horizontal lines. Proceed to adjustment of the upper half of the screen, then the lower half. Adjustment should be done from the part where convergence is greatly dislocated.



3.6.4

Repeat the adjustments described in 3.6.2 and 3.6.3 so that all the red vertical and horizontal lines converge with the green lines. (Completion of one screen mode)

3.6.5

Repeat procedures 3.6.2 through 3.6.4 for the other screen modes.
(Completion of the red adjustment)

3.7 Coarse Adjustment and Fine Adjustment of the Blue

Make coarse and fine-adjustments of the blue in the same manner as with the red, described in 3.5 and 3.6.

3.8 Confirmation of Adjustment

After the green, red, and blue adjustments are finished, check convergence errors with the patterns for all three colors on the monitor.

Check the patterns in all SCREEN modes, and if any error in convergence is recognized, readjust convergence in MANUAL CONVER. mode.

Note: Be sure NOT to change the green pattern during readjustment.

IMPORTANT!

- (1) When all the adjustments are completed, or when adjustment should be temporarily interrupted, adjustment data must be written to the EEPROM, in the following manner:

When all the adjustments are completed, or to interrupt adjustment, press the MENU key to quit Convergence Adjustment mode. The display will be unstable for several seconds, but this is because the data are being written to the EEPROM. Wait without doing anything until the display becomes stable, which means writing of data to the EEPROM is finished.

If the power of the TV is turned off (standby) during Convergence Adjustment mode (coarse and fine-adjustments), turn on the TV, enter FACTORY mode, and enter Convergence Adjustment mode by pressing the SET/ENTER key. Then press the MENU key. The data will be written to the EEPROM as described above.

- (2) Do NOT turn off the main power during or after convergence adjustment.

If you do so, the adjusted data may be lost. If the data are lost, you must make all the adjustments again.

- (3) When the CENTER POINT (test cross) or MULTI-POINT (user convergence) adjustments have been made by a user, and if the unit enters FACTORY Convergence Adjustment mode (with the DOT and SET/ENTER keys), the user's adjustment data will be all cleared and returned to the factory-preset values.

Be sure NOT to enter this Convergence Adjustment mode except when a repair related to convergence or a repair that requires convergence adjustment later, is needed.

If you inadvertently enter Convergence Adjustment mode, readjust the convergence.

6 White Balance Adjustment

6 -1 Contrast Adjustment

Start

1st FAC

(DOWN) :STD OFFSET
+ :COMPONENT 33K
SUB CH
CH ENTER :PURE RGB
3

"Color Bar"

Adjust the screen to optimum condition.

"Normal video signal"

STD OFFSET
CONTRAST

At the TP-BK of the B CRT DRIVE Assy, check that the signal is shaped as shown below.

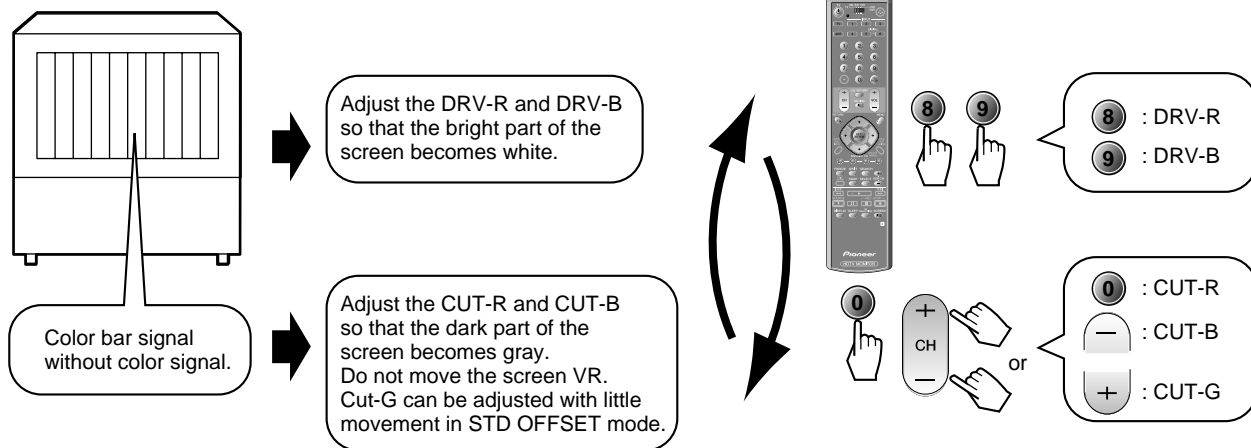
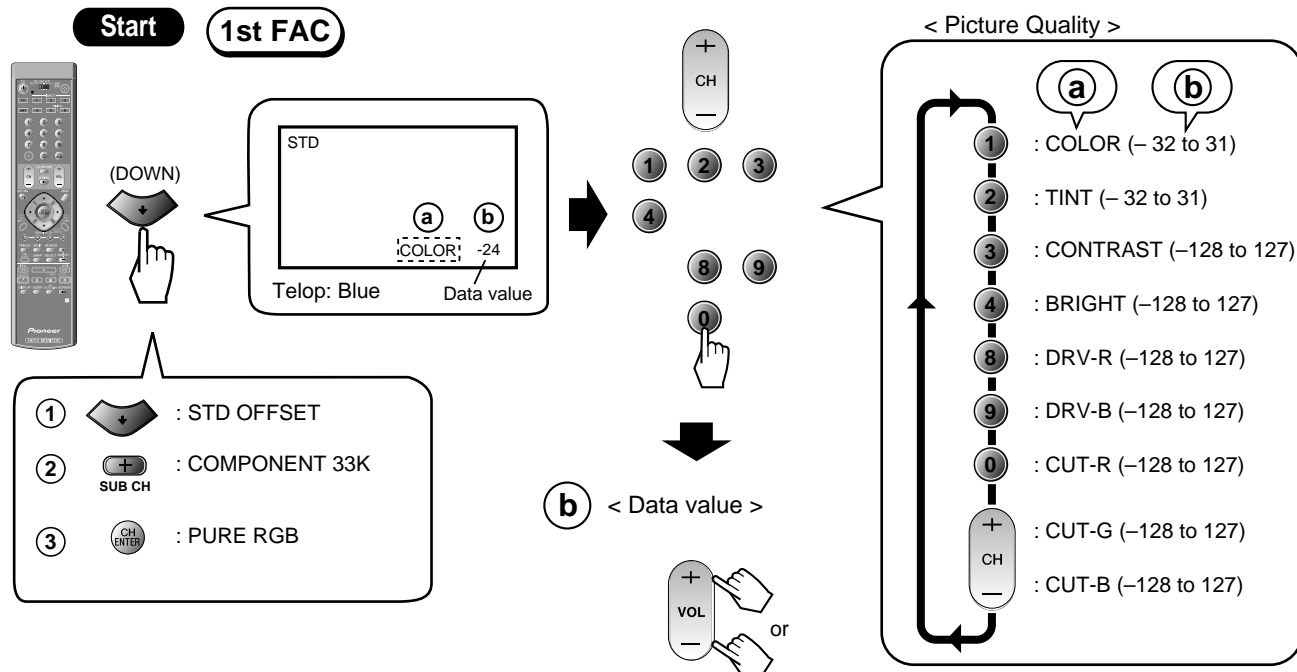
Shapely waveform

Shapeless waveform

Saturated

After the STD adjustment is complete, adjust the 33K COMP and PURE RGB.

6 -2 White Balance Adjustment This mode is to set the standard picture quality for a normal picture.



Note :

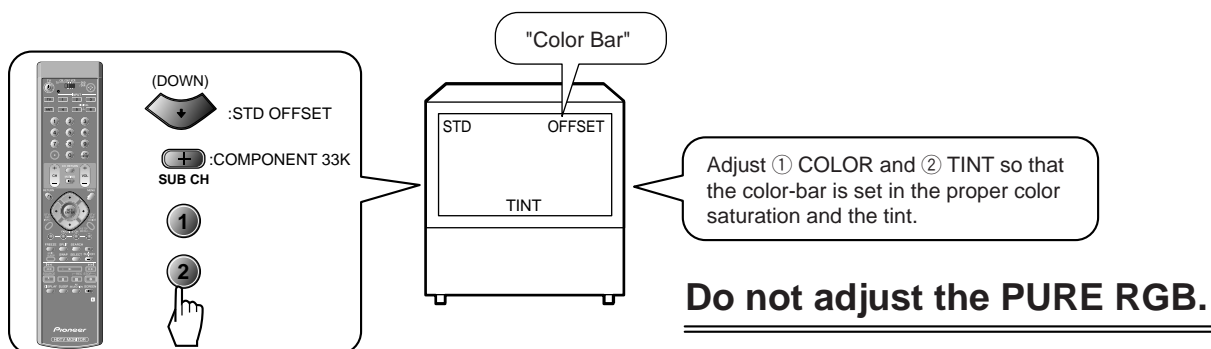
Refer to the following adjustment procedure.

After the STD adjustment is composite adjustment the 33k Component and PURE RGB.

6 -3 Color/Tint Adjustment

Start

1st FAC



■ OFFSET DATA (VIDEO)

ADJ: Adjustment item

The numerical value is shipping a set value in the factory.

DIRECT KEY		
OFFSET MODE		
KEY	ADJ NAME	Adjustment
DOWN		
STD		
1	COLOR	ADJ
2	TINT	ADJ
3	CONTRAST	ADJ
4	BLACK LVL	ADJ
5	SHARPNESS	0
6	DETAIL	30
7	SVM	1
8	R DRV	ADJ
9	B DRV	ADJ
0	R CUT	ADJ
CH+	G CUT	ADJ
CH-	B CUT	ADJ
COMP (15kHz)		
1	COLOR	0
2	TINT	0
3	CONTRAST	0
4	BLACK LVL	0
5	SHARPNESS	0
6	DETAIL	-10
7	SVM	0
8	R DRV	0
9	B DRV	0
0	R CUT	0
CH+	G CUT	0
CH-	B CUT	0

DIRECT KEY		
OFFSET MODE		
KEY	ADJ NAME	Adjustment
COMP (31kHz)		
1	COLOR	0
2	TINT	0
3	CONTRAST	0
4	BLACK LVL	0
5	SHARPNESS	-20
6	DETAIL	-87
7	SVM	2
8	R DRV	0
9	B DRV	0
0	R CUT	0
CH+	G CUT	0
CH-	B CUT	0
Sub CH+, PinP CH+		
COMP (33kHz)		
1	COLOR	ADJ
2	TINT	ADJ
3	CONTRAST	ADJ
4	BLACK LVL	0
5	SHARPNESS	10
7	SVM	7
8	R DRV	ADJ
9	B DRV	ADJ
0	R CUT	ADJ
CH+	G CUT	ADJ
CH-	B CUT	ADJ

DIRECT KEY		
OFFSET MODE		
KEY	ADJ NAME	Adjustment
COMP (45kHz)		
1	COLOR	ADJ
2	TINT	ADJ
3	CONTRAST	ADJ
4	BLACK LVL	0
5	SHARPNESS	10
7	SVM	7
8	R DRV	ADJ
9	B DRV	ADJ
0	R CUT	ADJ
CH+	G CUT	ADJ
CH-	B CUT	ADJ
CH CENTER		
PURE RGB		
3	CONTRAST	ADJ
4	BLACK LVL	0
8	R DRV	ADJ
9	B DRV	ADJ
0	R CUT	ADJ
CH+	G CUT	ADJ
CH-	B CUT	ADJ

Note * :

Check that the value is the same as that for COMP (33 kHz). If it is not, enter the same value as that for COMP (33 kHz).

DIRECT KEY		
OFFSET MODE		
KEY	ADJ NAME	Adjustment
PURE RGB (HDMI)		
3	CONTRAST	ADJ *
4	BLACK LVL	0
8	R DRV	ADJ *
9	B DRV	ADJ *
0	R CUT	ADJ *
CH+	G CUT	ADJ *
CH-	B CUT	ADJ *
TV		
1	COLOR	-5
2	TINT	0
3	CONTRAST	0
4	BLACK LVL	0
5	SHARPNESS	0
6	DETAIL	-20
RTM		
1	COLOR	0
2	TINT	-2
3	CONTRAST	-22
4	BLACK LVL	0
5	SHARPNESS	0
6	DETAIL	0
8	R DRV	0
9	B DRV	0
0	R CUT	-7
CH+	G CUT	-6
CH-	B CUT	-5
GAME		
1	COLOR	0
2	TINT	0
3	CONTRAST	-46
4	BLACK LVL	0
5	SHARPNESS	0
6	DETAIL	0
8	R DRV	-3
9	B DRV	-11
0	R CUT	-5
CH+	G CUT	-6
CH-	B CUT	-2
MODULE		
1	COLOR	0
2	TINT	0
3	CONTRAST	0
4	BLACK LVL	0
5	SHARPNESS	0
6	DETAIL	0
8	R DRV	0
9	B DRV	0
0	R CUT	0
CH+	G CUT	0
CH-	B CUT	0

DIRECT KEY		
OFFSET MODE		
KEY	ADJ NAME	Adjustment
RGB → YCbCr (31k)		
1	COLOR	0
2	TINT	-1
3	CONTRAST	0
4	BLACK LVL	0
5	SHARPNESS	-20
6	DETAIL	-87
7	SVM	0
8	R DRV	0
9	B DRV	0
0	R CUT	0
CH+	G CUT	0
CH-	B CUT	2
RGB → YCbCr (33k)		
1	COLOR	-1
2	TINT	-3
3	CONTRAST	0
4	BRIGHT	0
5	SHARPNESS	10
6	DETAIL	0
8	R DRV	0
9	B DRV	0
0	R CUT	0
CH+	G CUT	0
CH-	B CUT	7

Note * :

Check that the value is the same as that for PURE RGB. If it is not, enter the same value as that for PURE RGB.

DIRECT KEY		
OFFSET MODE		
KEY	ADJ NAME	Adjustment
NEWS COLOR TEMP		
3	CONTRAST	0
8	R DRV	-15
9	B DRV	12
0	R CUT	0
CH+	G CUT	0
CH-	B CUT	-1
LIVE COLOR TEMP		
3	CONTRAST	0
8	R DRV	-2
9	B DRV	7
0	R CUT	0
CH+	G CUT	1
CH-	B CUT	0
SLEEP		
FILM COLOR TEMP		
3	CONTRAST	0
8	R DRV	8
9	B DRV	-14
0	R CUT	-1
CH+	G CUT	0
CH-	B CUT	1
B&W COLOR TEMP		
3	CONTRAST	0
8	R DRV	6
9	B DRV	-9
0	R CUT	0
CH+	G CUT	0
CH-	B CUT	1
FILM FOR RTM COLOR TEMP		
3	CONTRAST	0
8	R DRV	3
9	B DRV	-10
0	R CUT	0
CH+	G CUT	0
CH-	B CUT	0

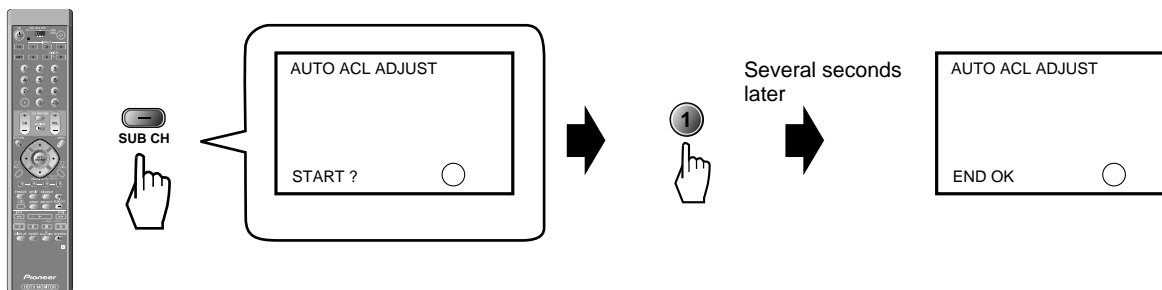
ADJ: Adjustment item

The numerical value is shipping a set value in the factory.

6 -4 ACL Adjustment Perform this adjustment after the white balance adjustment by all means.

Start

1st FAC



Signal:

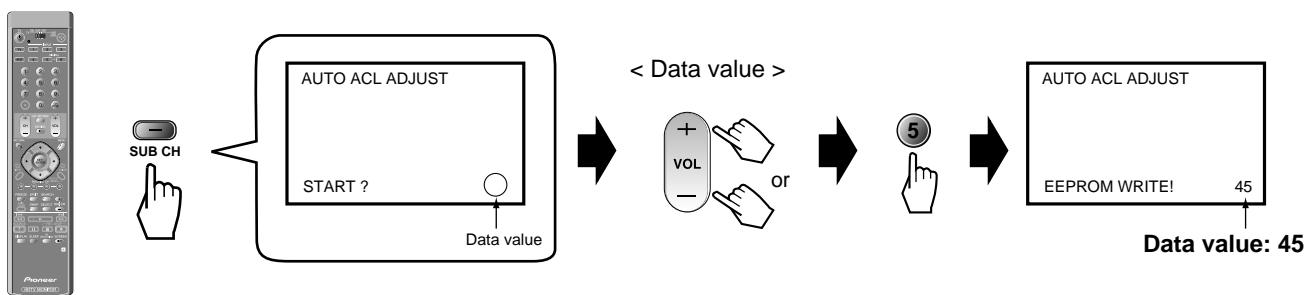
- Input a cross hatch of composite signal into an INPUT4 connector.

Conditions:

- When there is the cross hatch of composite signal, be sure to adjust.
- When there is not a cross hatch of composite signal and replaces the EEPROM IC, this adjustment is unnecessary.
- When there is not a cross hatch of composite signal and does not replace the EEPROM IC, input a value of "45". (Method refers to the following.)
- When perform the above adjustment, and display "END NG", input a value of "45". (Method refers to the following.)

Start

1st FAC



7 Panel Adjustment for 480i

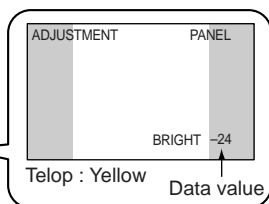
Start

1st FAC

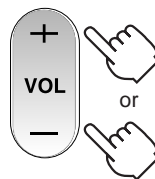
• Mode for adjusting the brightness, contrast of the gray part (panel) of the 4:3 normal screen.



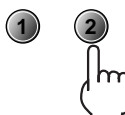
CH RETURN



<Data value section>



<Adjustment item section>



① : BRIGHT (– 128 to 127)

② : CONTRAST (– 128 to 127)

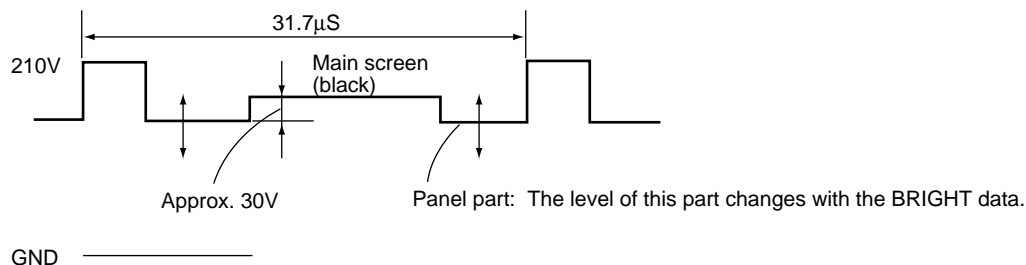
Procedures

- ① Send the black-burst signal to the INPUT 1 connector.

Enter Adjustment mode by following the procedures described above.

- ② With BRIGHT, adjust the gray part (panel) of the screen.

By observing TP5151 of the GREEN CRT DRIVE assembly with the oscilloscope, , adjust the brightness level which is low by 30V from Black level of the main screen.

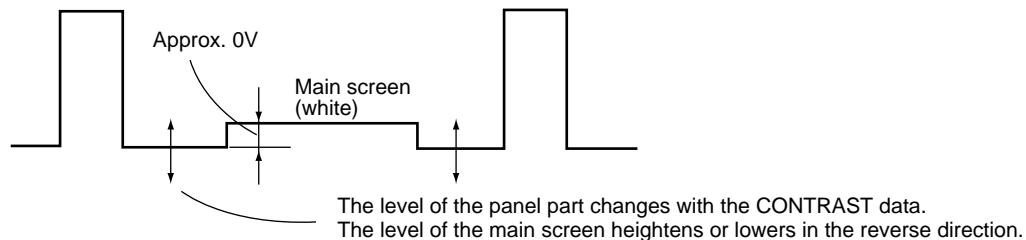


- ③ Switch the input signal to a 100%-white signal.

Adjust the panel part and the main screen with CONTRAST.

Observe the same site as described in Step ② above, and adjust the amplitude of the luminosity.

Adjust so that the level of the luminosity of the panel and that of the main screen become the same.



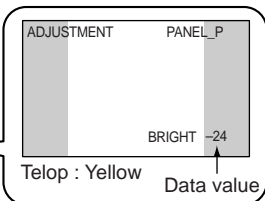
8 Panel Adjustment for 480P

Start

1st FAC

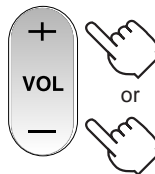


RIGHT



- Mode for adjusting the brightness, contrast of the gray part (panel) of the 4:3 normal screen of 480P signal.

<Data value section>



<Adjustment item section>



- ① : BRIGHT (– 128 to 127)
- ② : CONTRAST (– 128 to 127)

Note :

- The adjustment procedures are the same as those described in " 7 Panel Adjustment for 480i " except for the following:
- Send the black burst of the 480P signal to the INPUT 1 connector.
- Send a 100%-white 480P signal to the INPUT 1 connector.
- When 480P signal is not obtained and adjustment does not complete, input a value the same as BRIGHT and the CONTRAST data value that adjusted with step 7.

8. GENERAL INFORMATION

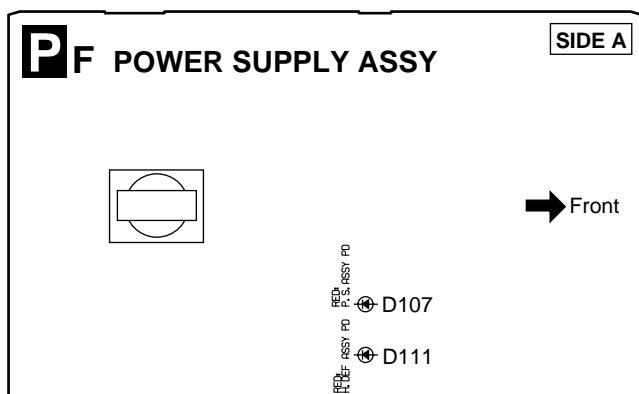
8.1 DIAGNOSIS

8.1.1 DIAGNOSIS METHOD

Various protection circuits are provided for this unit. When these protection circuits are activated, the power of the unit is shut down (P.D.: Power Down).

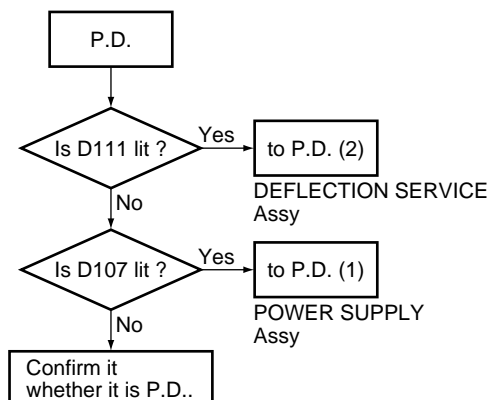
The defective parts can be easily diagnosed by observing the LEDs inside the POWER SUPPLY Assy.

1. D107 in the AWP2057 (For POWER SUPPLY Assy)
2. D111 in the AWP2057 (For DEFLECTION SERVICE Assy)



LED points

How to Diagnose a Failure



Note: There is a case that DEFLECTION SERVICE Assy P.D. works when there is a damage with the POWER SUPPLY Assy.

Example

If there is not 6V, V DRV+, V DRV- does not come out. And P.D. hangs with the DEFLECTION SERVICE Assy more first than the POWER SUPPLY Assy.

1. P.D. (1)

Failure in the POWER SUPPLY Assy.

There are two main possibilities:

1. Blown fuse(s) in secondary
2. Abnormality in AUDIO OUTPUT

Status	Causes	Check Items	Probable Defective Parts
D320 ANODE Hi	Blown fuse (s)	The voltage (approx. 14V) at D307 is not supplied.	VIDEO UCOM SERVICE Assy, DVI SERVICE Assy
		The voltage (29 to 38V) at R306 is not supplied.	IC1101 (POWER SUPPLY Assy)
		The voltage (approx. 6.5V) at "6V" JP is not supplied.	VIDEO UCOM SERVICE Assy, SIGNAL Assy, DVI SERVICE Assy
		The voltage (approx. 4.8V) at "4V" JP is not supplied.	
D1106 ANODE Hi	Abnormality in AUDIO OUTPUT	The SP line (CN1101) is disconnected.	Connect the SP line.
		The voltage at the negative electrode of the C1114 and C1117 is 5.5V or more.	C1114, C1117 (POWER SUPPLY Assy)

Note: The anode of the diode is high only for a short time after the power is turned on until the protection circuits are activated (P.D.)
The LEDs are lit by the HOLD circuit.

In a case when the power cannot be on with no LED lit, check the following:

1. Check if the FU201 fuse in the POWER SUPPLY Assy is blown.
2. Disconnect and check connector P1 (CN407) to see whether STB 5 V is supplied.
If STB 5 V is supplied, replace the VIDEO UCOM SERVICE Assy. If STB 5 V is NOT supplied, replace the POWER SUPPLY Assy.
3. Disconnect and check connector P2 (CN404) to see whether AC CLK is supplied.
If AC CLK is supplied, replace the VIDEO UCOM SERVICE Assy. If AC CLK is NOT supplied, replace the POWER SUPPLY Assy.

When overload detection mechanism is activated, the 10V line is short-circuited. If the power switch is set to ON again in this condition, there may be a case where the power cannot be turned on, with just a whining sound, and where only the D107 LED in the POWER SUPPLY Assy is lit. If this happens, first replace only the VIDEO UCOM SERVICE Assy, disconnect the AC cord from the AC outlet or turn the main power switch OFF, and wait for five minutes. Then, turn on the power again. If the condition is ameliorated, only the VIDEO UCOM SERVICE Assy is defective. If the same symptom occurs, replace the POWER SUPPLY Assy. In the latter case, the VIDEO UCOM SERVICE Assy may not be defective.

SIGNAL and TUNER Assemblies also perform the same thing as VIDEO UCOM SERVICE Assy, and exchange the unit that verified the unit and has broken.

2. P.D. (2)

Failure in the DEFLECTION SERVICE Assy.
 There are six main possibilities:
 1. Blown fuse (s) in secondary
 2. Abnormality in the regulator of heater
 3. Overload detection
 4. H. deflection stopping detection
 5. X-ray protection
 6. V. deflection stopping

Status	Causes	Check Items	Probable Defective Parts
D1006 ANODE Hi	Blown fuse (s)	The voltage (approx. 23V) at R831 is not supplied.	IC401, IC402 (POWER SUPPLY Assy)
		The voltage (approx. -23V) at R833 is not supplied.	IC802 (DEFLECTION SERVICE Assy)
		The voltage (approx. 8V) at D1010 is not supplied.	IC1001, D1021
D1014 ANODE Hi	Abnormally in the regulator for the heater	The voltage of HT + (approx. 6.4V) at C1019 + side is too high (over 7.5V)	D1012, IC1001
D503 ANODE Hi	Overload detection	It checks whether the parts of the account of the right have broken.	Q603 (short-circuited between D and S) Q511 (short-circuited between C and E) IC5101, IC5151, IC5201 (CRT DRIVE Assy) Short D605 (short-circuited)
D512 ANODE Hi	Stopping H. deflection	Is the connector of the deflection yoke plugged in ?	Plug in the connector.
		No HDRV signal at R557	IC4608 (VIDEO UCOM SERVICE Assy)
		No DH. BLK signal at D506 (Cathode)	Q508, Q511
D613 ANODE Hi	X-ray protection	No change in the ABL voltage (no DC change) at pin 10 of the CN1907 when a 100%-white signal is repeatedly connected and disconnected	D4614 (short-circuited) of the VIDEO UCOM SERVICE Assy
			T601 (FBT) rare short
D806 ANODE Hi	Stopping V. deflection	Abnormality in VDRV +, VDRV – waveform that is output from pin 2 and 6 of the CN1907 in the VIDEO UCOM SERVICE Assy	IC4608 (VIDEO UCOM SERVICE Assy)
		No waveform is output from pin 4 of the CN505	IC802

Note: The anode of the diode is high only for a short time after the power is turned on until the protection circuits are activated (P.D.)
 The LEDs are lit by the HOLD circuit.

Note that the power may be shut down when the voltages AC120V, 5V6 and STB5V from the POWER SUPPLY Assy are not supplied because the DEFLECTION SERVICE Assy is powered by the POWER SUPPLY Assy.

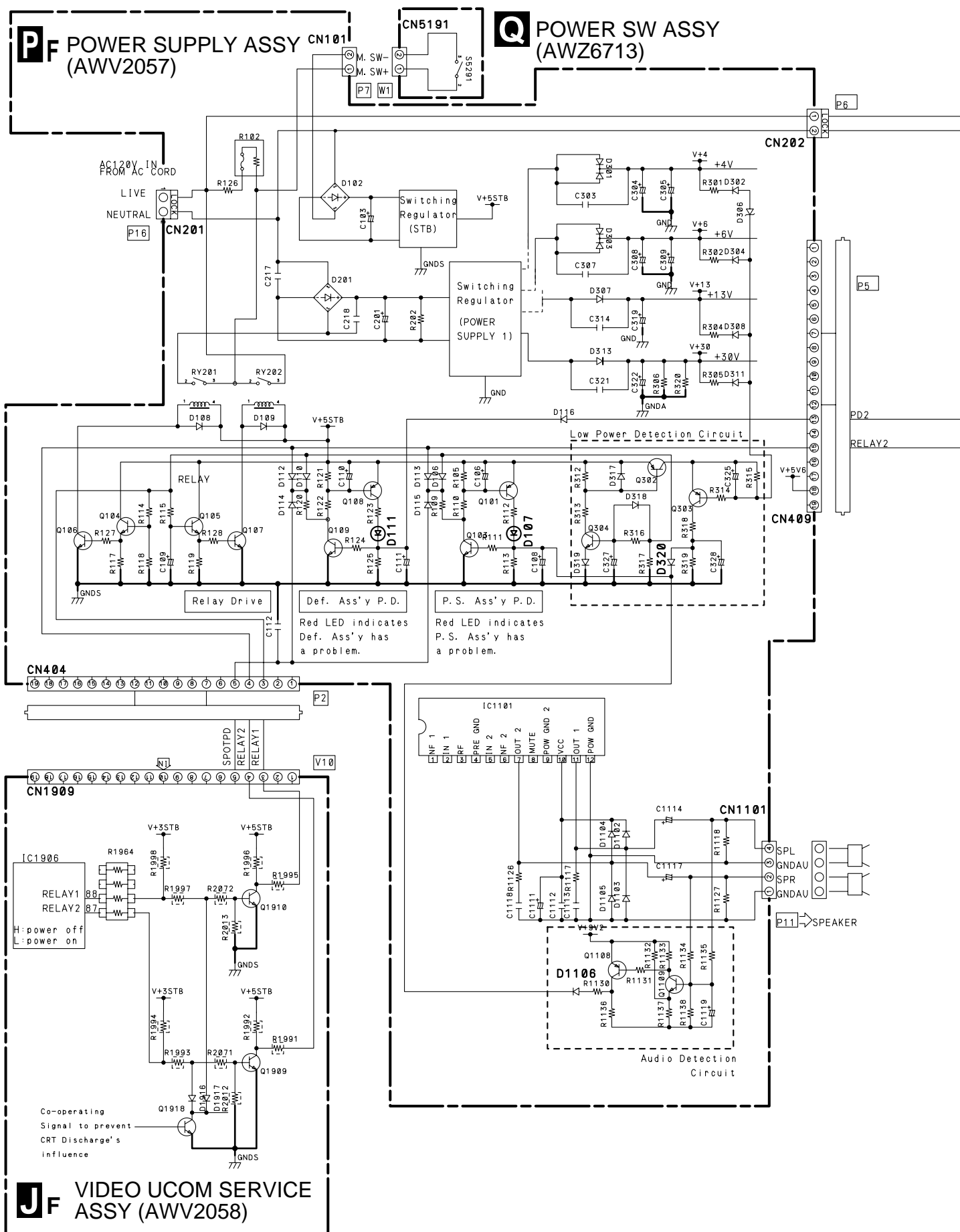
When overload detection mechanism is activated, the 120 V line is short-circuited. If the power switch is set to ON again in this condition, there may be a case where the power cannot be turned on, with just a whining sound, and where only the D111 LED in the POWER SUPPLY Assy is lit. If this happens, disconnect the AC cord from the AC outlet or turn the main power switch OFF, and wait for five minutes.

Be sure to check the fuses in the DEFLECTION SERVICE Assy because one or more may be blown as a result of short-circuiting of the load circuit of the DEFLECTION SERVICE Assy.

If the FU1001 and FU1002 fuses are blown, see the following table:

Causes	Check Items	Probable Defective Parts
Too high loading on the CONVER. AMP	Check that waveform signals are output from pin 3 and pin 1 of the CN401, CN402 and CN403, and that the DC element is not added to the signals.	IC401, IC402 (POWER SUPPLY Assy)
CONVER. MUTING not activated	Check that the electric potential of pin 3 and pin 4 of IC401 and IC402 are at the same level when the power is turned on.	Q404, Q402 (POWER SUPPLY Assy)

3. Block Diagram of the Protection Circuit



PRO-730HDI

8.1.2 DISASSEMBLY

Note:

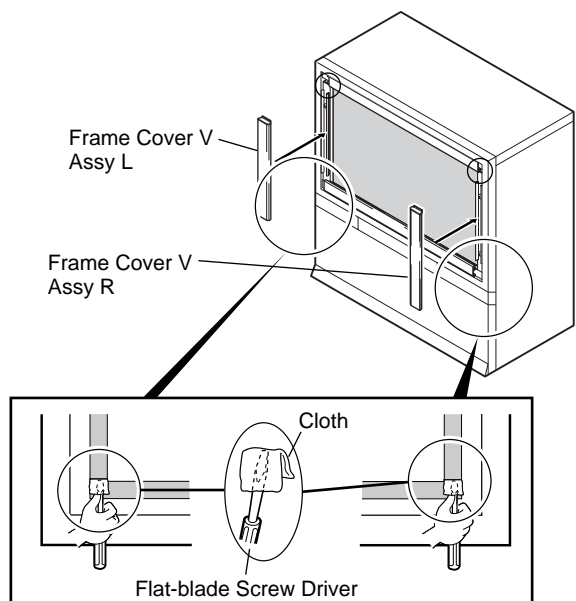
You can remove the Screen without removing the Frame Cover and AR Panel.

1 Frame Cover and AR Panel

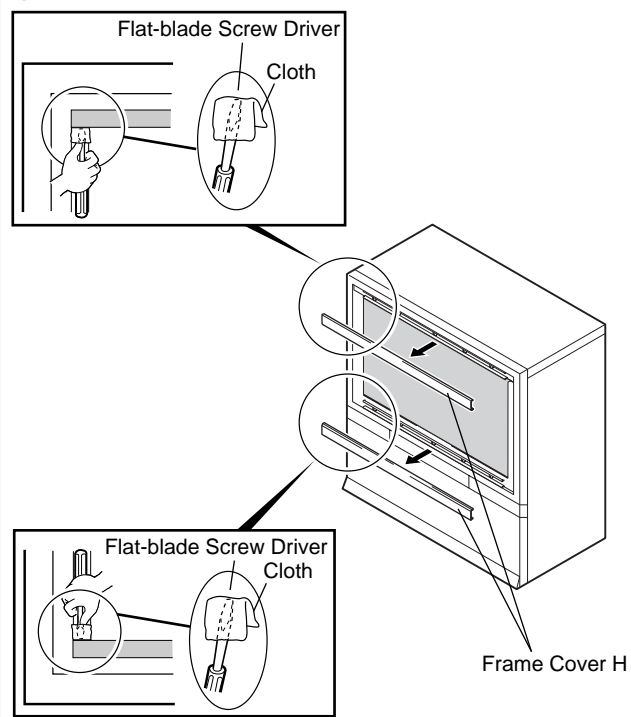
Disassembly : ① → ② → ③ → ④ → ⑤ → ⑥ → ⑦ → ⑧ → ⑨

Assembly : ⑨ → ⑧ → ⑦ → ⑥ → ⑤ → ④ → ③ → ② → ①

① Remove the Frame Cover V Assy L and R

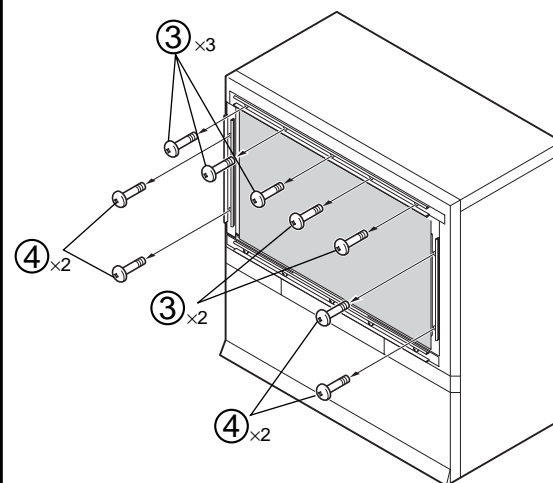


② Remove the Frame Cover H



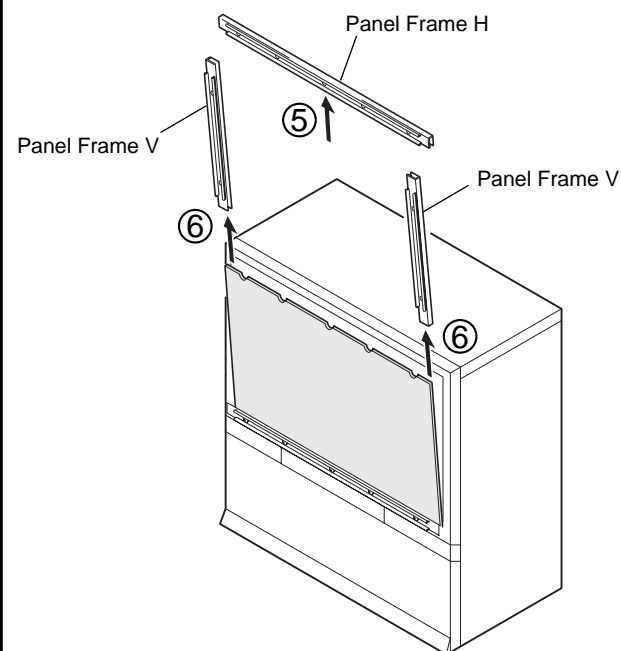
③ Remove five screws

④ Remove four screws



⑤ Remove the Panel Frame H

⑥ Remove the Panel Frame V



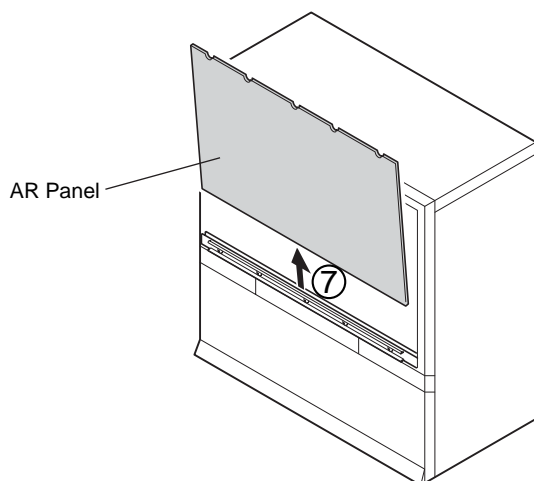
⑦ Remove the AR Panel

Caution :

As oil from the hands is easily attached to, but difficult to remove from the AR panel, be sure to wear gloves when you handle the panel.

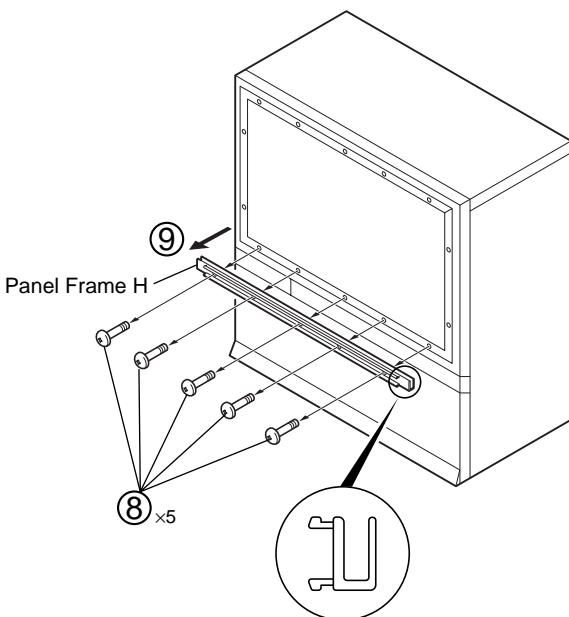
If stains are attached to the panel, wipe them off with a piece of clean cloth moistened with water.

If stains persist, use undiluted alcohol.



⑧ Remove five screws

⑨ Remove the Panel Frame H



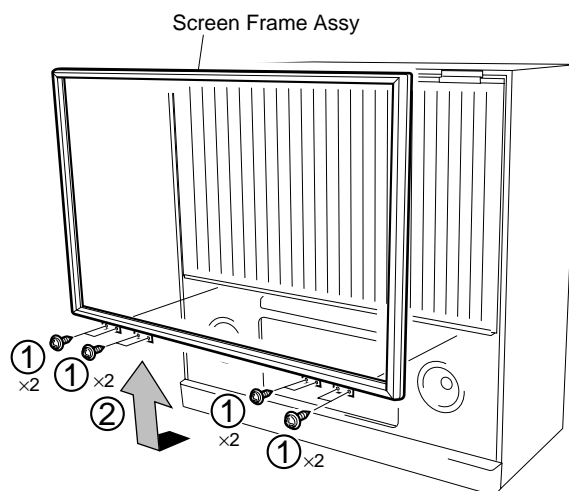
2 Screen

Note:

You can remove the Screen without removing the Frame Cover and AR Panel.

① Remove eight screws

② Remove the Screen Frame Assy



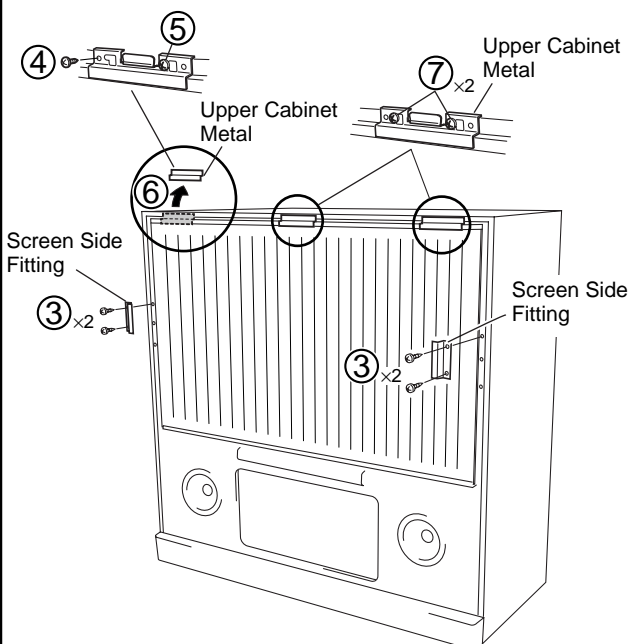
③ Remove four screws to remove the Screen Side Fitting

④ Remove a screw

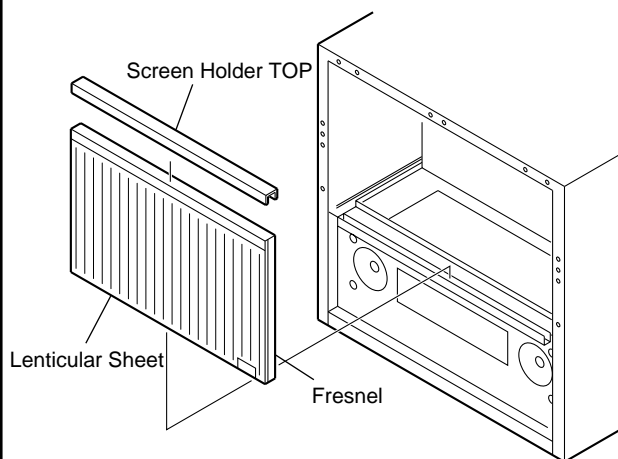
⑤ Remove a screw (Only unscrew in the lens adjustment.)

⑥ Remove the Upper Cabinet Metal

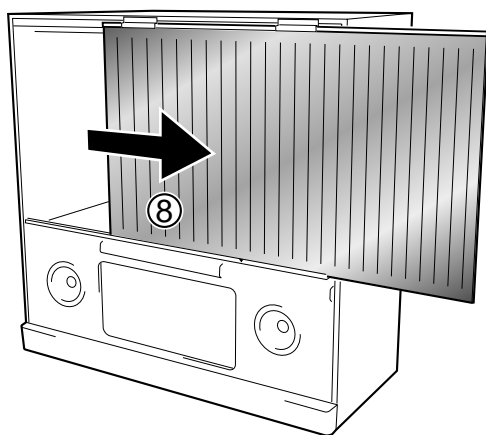
⑦ Remove four screws to remove the Upper Cabinet Metal (Only unscrew in the lens adjustment.)



⑧ Remove the Screen



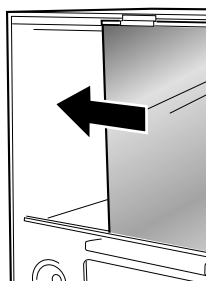
⑧ Slide the screen to right (when perform the lens adjustment)



Notes:

To assemble the screen, perform the above procedures in reverse order.

After assembling it, put positions together so that right and left become equal.



Disconnect the Anode Cable

WARNING:

Before disconnect the anode cable, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minut.

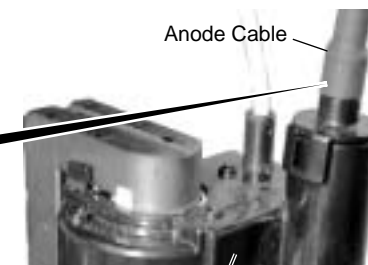
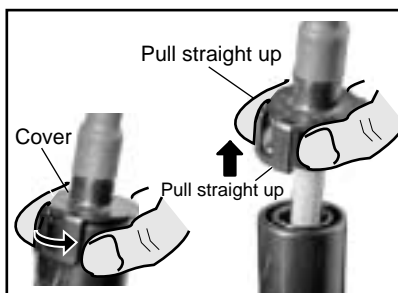
MEASURING METHOD

Disconnect the FBT anode cable as shown below. Measure at the point where the cable enters the FBT.

Caution : Take extra precaution when measuring the voltage. High voltage are also present in surrounding circuit boards. (CRT assy, POWER SUPPLY assy)

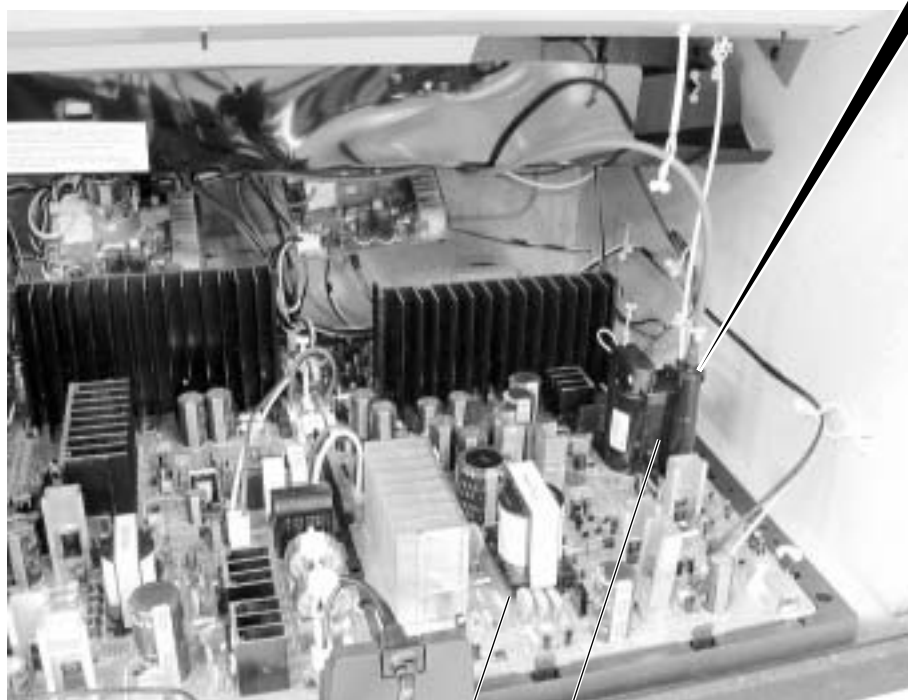
SERVICEMAN WARNING

Before removing the anode cable, turn off the power, unplug the AC plug and let the unit discharge for more than 1 minut.



Note :
When reconnecting the cable, proceed in the reverse order. After reconnecting, tug on the cable to check that it is secure.

• Rear View

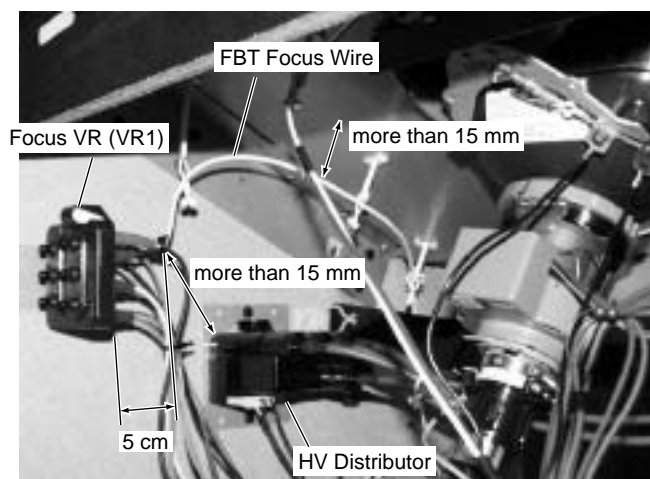
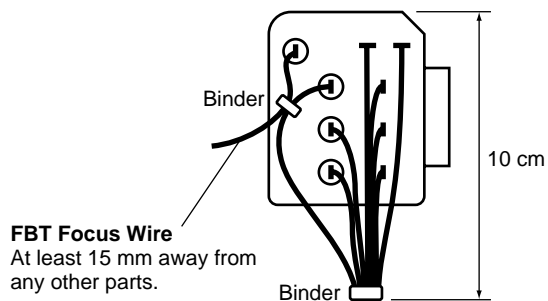
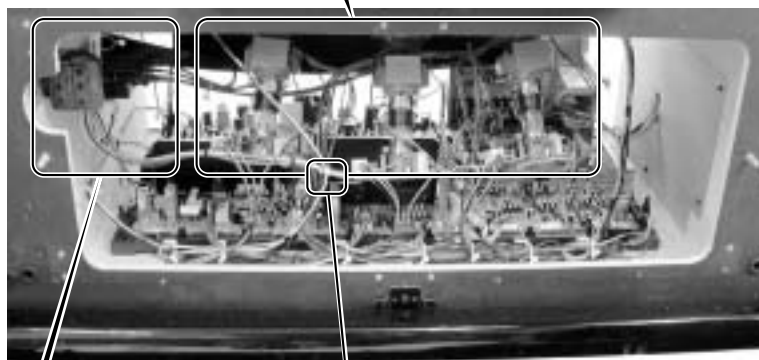
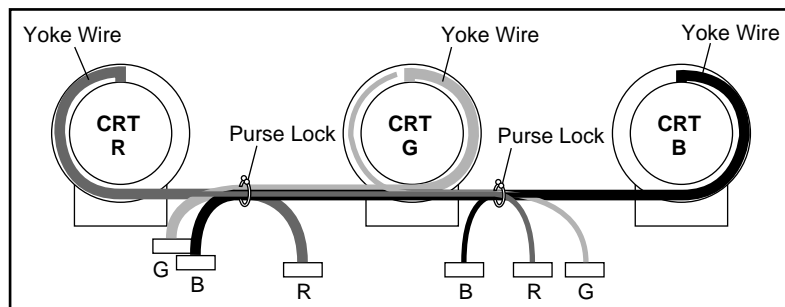


FBT

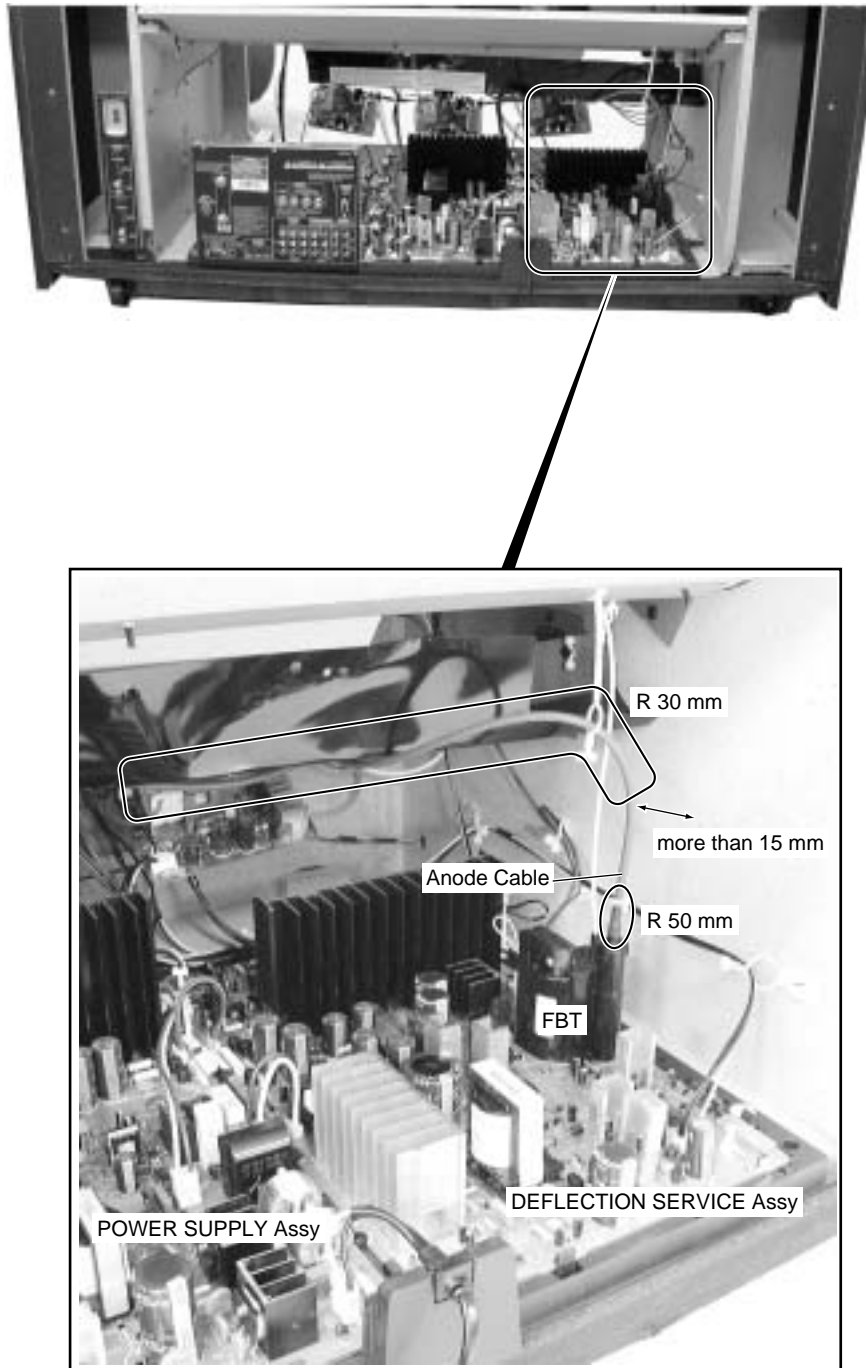
DEFLECTION SERVICE Assy

8.1.3 WIRING DIAGRAM

A ■ Front Section



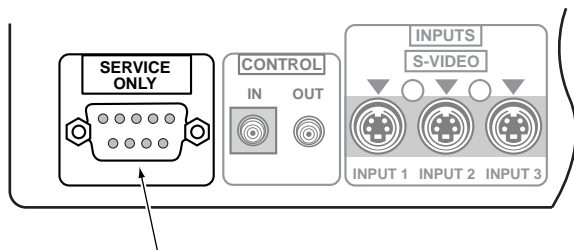
Rear Section



8.1.4 ABOUT THE SERVICE (RS232C) PORT

A

Rear Panel



- Specification of this port is not decided at present.

Please refer to the service information issued separately after specification was decided.

B

C

D

E

F

8.2 IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

• List of IC

M306V7FGFP, SiI9993CTG100

■ M306V7FGFP (VIDEO UCOM SERVICE ASSY : IC1906)

System micro-computer IC

● Pin Function (1/3)

No.	Pin Name	I/O	Pin Function
1	VHOLD1	I	External parts for main CCD standard voltage generating circuits are connected.
2	HLF1	I/O	External parts for main CCD timing signal generating circuits are connected.
3	SCL3	O	SCL signal for CXA1875 (HDMI for DAC)
4	SDA3	I/O	SDA signal for CXA1875 (HDMI for DAC)
5	(MAINH)	TIM INPUT	HSYNC input for main signal existence distinction
6	(INT)	I	Change of a HDMI incoming signal form Existence is outputted. (not use)
7	(CEC1)	I/O	CEC input and output (not use)
8	BYTE	I	External data bus width change terminal
9	CNVSS	I	Serial input and output mode change signal input
10	ACLOFF	O	ACL OFF signal output at the time of AUTO ACL.
11	CMUTE	O	Conver mute output
12	RESET	I	Reset input
13	XOUT	O	Output terminal of system clock generating circuit
14	VSS	-	GND
15	XIN	I	Input terminal of system clock generating circuit
16	VCCI	I	STB 3.3V
17	OSC1	I	Filter connection for internal clock generating circuits for OSD
18	OSC2	O	Open
19	REM	INT INPUT	SR remote control signal input
20	(CEC2)	I/O	CEC input and output (not use)
21	OSDBLK	O	OSD BLK output
22	OSDHALF	O	OSDHALFoutput
23	HS1	TIM INPUT	Level synchronous count input for tuner 1 reception
24	WP	O	Signal for conver EEPROM rewriting
25	HS2	TIM	Level synchronous count input for tuner 2 reception
26	CBUSY	I	BUSY signal for CM0021 (digital conver) control
27	CRESET	O	RESET signal for CM0021 (digital conver) control
28	SCL2	O	CM0022AF (digital conver), TA1340F (main, sub synchronization), YGT-035 (Hitachi module), M62399FP (DAC for videos), CXA2180AQ (video jungle), CXA2153 (gamma compensation) and SCL signal for BD3867F (audio)
29	SCL1	O	TUNER1.2,CXA2069Q(AVI/O),CXA2171Q (main,sub component SW)SCL signal for uPD64083(3D Y/C)
30	SDA1	I/O	TUNER1.2,CXA2069Q(AVI/O),CXA2171Q (main,sub component SW)SDA signal for uPD64083(3D Y/C)
31	SDA2	I/O	CM0022AF (digital conver), TA1340F (main, sub synchronization), YGT-035 (Hitachi module), M62399FP (DAC for videos), CXA2180AQ (video jungle), CXA2153 (gamma compensation) and SDA signal for BD3867F (audio)
32	OSDR	O	OSD R output
33	OSDG	O	OSD G output
34	OSDB	O	OSD B output
35	TXD0	O	RS-232C, serial input and output mode communication (for transmission)
36	RXD0	I	RS-232C, serial input and output mode communication (for reception)
37	CLK0	I	Serial clock at the time of writing and elimination
38	RTS0	I	Writing, the BUSY signal at the time of elimination
39	VMUTE	O	Video mute output (parent screen and small screen mute)
40	SHARPSW	O	SHARPNESS ON/OFF change signal (AN5395FBP)
41	EPM	I	Serial input-and-output mode setting port
42	31KSW	O	Input signal 31K and other SHARPNESS , picture quality change signal (AN5395FBP)

● Pin Function (2/3)

Pin		I/O	
43	PMUTE	O	Video mute at the time of OSD.
44	31K/33K	O	Component 31K / 33K (45K) change signal
45	SPASS	O	AN5395FBP (SHARPNESS) through signal
46	CE	I	Serial input and output mode setting port
47	COMPFULL	O	Main component 480P, 1080IFULL mode Change signal
48	STDSW	O	Standard signal / non-standard distinction signal
49	MC	O	HDMI audio system control signal (CLK)
50	AMUTE	O	Audio mute output
51	EEPRST	O	RESET output for EEPROM
52	ESCL	O	SCL signal for EEPROM communication
53	ESDA	O	SDA signal for EEPROM communication
54	PURE RGB	O	4:3 panel signals, component signal / RGB signal change
55	MD	O	HDMI audio system control signal (DATA)
56	MMUTE	O	Main video mute signal
57	SMUTE	O	Sub video mute signal
58	3DRST	O	Reset signal output for 3-dimensional YC
59	HP1	O	HDMI1 for HOT PLUG control signal
60	(SCOMPSW)	O	Sub video signal composite / component change signal
61	DSUB/DVISW	O	INPUT3 (D-sub) / INPUT5.6 (DVI) change signal
62	H BLK	I	Synchronized signal for CCD display and HBLK input
63	TV SW	O	Signal for 3DYC postposing filter change
64	V BLK	I	Synchronized signal for CCD display and Vsync input
65	DET	I	Input for electric discharge detection
66	(FUNC1)	O	Signal output 1 for function distinction
67	(FUNC2)	O	Signal output 2 for function distinction
68	(IN5DET)	I	INPUT5 signal existence distinction
69	SCL4	I/O	SCL signal for HDMI2
70	SDA4	I/O	SDA signal for HDMI2
71	HP2	O	HDMI2 for HOT PLUG control signal
72	FLASH	O	Signal output for Light Emitting Diode blink at the time of a power management and software rewriting.
73	DVIRST	O	IC RESET for HDMI
74	MDET	I	HDMI board existence detected signal input
75	ML	O	HDMI audio system control signal (ENABLE)
76	PTT	I	HDMI board unusual detected signal
77	VAR/FIX MUTE	O	Audio out mute
78	CENTER SW	O	AUDIO CENTER change signal
79	VAR/FIX SW	O	VARIABLE/FIX change signal
80	MON/TV MUTE	O	Moniter/TVout L, R, V output mute
81	ST1	I	Sound multiplex control (MTS information)
82	SAP1	I	Sound multiplex control (MTS information)
83	FMONO	O	Sound multiplex control (MTS change)
84	MPX	O	Sound multiplex control (MTS change)
85	ANTSW	O	Output for ANT SW change
86	ACCLK	I	AC power supply OFF detection AC.CLK detection input
87	RELAY2	O	Large power supply relay control
88	RELAY1	O	Small power supply relay control
89	KEY	AD INPUT	Analog DC voltage input for KEY input distinction
90	AFT1	AD INPUT	AFT analog voltage input for tuners 1

● Pin Function (3/3)

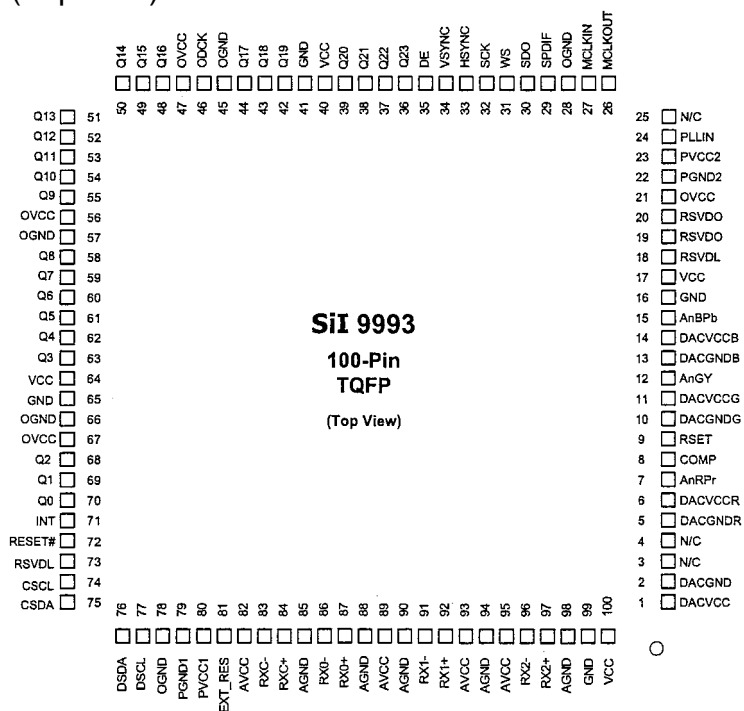
Pin	Pin Name	I/O	Pin Function
91	AFT2	AD INPUT	AFT analog voltage input for tuners 2
92	RLS	AD INPUT	Aalog DC voltage input for RLS input distinction
93	VDET	AD INPUT	Secondary side voltage It rises and is a detection input.
94	ACL	AD INPUT	Analog DC voltage input for ACL signal distinction
95	VHOLD2	I	External parts for sub CCD standard voltage generating circuits are connected.
96	HLF2	I/O	External parts for sub CCD timing signal generating circuits are connected.
97	SCCY	I	Picture signal input for small screen V CHIP detection (1.5Vpp)
98	TVSETB	I	Test input terminal (it fixes to Lo)
99	VCCE	-	STB5V
100	MCCY	I	Picture signal input for parent screen V CHIP detection (1.5Vpp)

() is undecided.

SiI 9993CTG100 (HDMI SERVICE ASSY : IC6007, IC6013)

HDMI PanelLink Receiver

● Pin Assignment (Top view)



● Block Diagram

